SUSTAINABILITY IN SUPPLY CHAIN MANAGEMENT PRACTICES IN LEAST DEVELOPED COUNTRIES:

A CASE OF SMES IN ZAMBIAN MINING SECTOR

R. MANCHISI

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Sustainability in supply chain management practices in least developed countries: A case of SMEs in Zambian mining sector

Roy MANCHISI

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ABSTRACT

Roy MANCHISI

Sustainability in supply chain management practices in least developed countries: A case of SMEs in Zambian mining sector

Keywords: Supply Chain, SME suppliers, Stakeholders, Sustainability practices, Barriers, Drivers, Stakeholder framework

The focus of this study is to explore the sustainability practices of SME suppliers as influenced by the stakeholders in the mining SC in Zambia. The study aims to provide the policymakers and senior managers of focal firms by developing a detailed framework that helps in examining the SME environment with regard to sustainability practices and formulate measures to increase their sustainability performance to decision making.

This qualitative research used 50 semi-structured interviews in addressing the research objective. Interviews undertaking with cross section of stakeholders and using content analysis, the findings revealed that SMEs engage in sustainable practices when working with mining firms but disengage when working with non-mining firms. The findings further revealed the mechanisms employed by SC members in extending sustainability practices to direct and indirect suppliers (mainly informal SMEs) from focal firms. In so doing, the findings highlighted the role of first-tier suppliers as a bridge between the focal firms and sub-suppliers in disseminating sustainability practices. Besides revealing the drivers and barriers to sustainability, the research revealed the mechanisms for mitigating the barriers in order to increase the volume of SME suppliers adopting sustainable practices.

This research has several contributions to both academia and practice. The main contribution to academia is a stakeholder framework, which provides a systematic mechanism of examining the sustainability phenomenon. Thus, presenting a theoretical approach for analysing and understanding sustainability practices of

SMEs in a developing country context. The main contribution to practice is the production of tools that support practitioners to analyse and better comprehend the relationships in the SMEs sector and by identifying the key stakeholders that support the SMEs.

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LIST OF ABBREVIATIONS

AAC	Anglo American Corporation
CBOs	Community Based Organizations
CRs	Customer Requirements
CSO	Central Statistics Office
CSR	Corporate Social Responsibility
DfE	Design for Environment
DA	Development Agreement
EMS	Environmental Management Systems
EIZ	Engineering Institute of Zambia
GDP	Gross Domestic Product
GNI	Gross National Income
GNP	Gross National Product
GLM	Green Living Movement
GSC	Green Supply Chain
GSCM	Green Supply Chain Management
ILO	International Labour Organization
IT	Information Technology
LCA	Life Cycle Analysis
MDGs	Millennium Development Goals
MNCs	Multinational Corporations
MSME	Micro, Small and Medium-sized Enterprise
NAMSSC	National Association of Medium and Small Scale Contractors
NAPSA	National Pension Scheme Authority
NCC	National Council for Construction
NGOs	Non-Governmental Organizations
OEMs	Original Equipment Manufacturers
PACRA	Patents and Companies Registration Agency
RST	Roan Selection Trust
SC	Supply Chain
SCM	Supply Chain Management
SD	Sustainable Development

SDG	Sustainable Development Goals
SMEs	Small and Medium Enterprises
SSC	Sustainable Supply Chain
SSCM	Sustainable Supply Chain Management
TBL	Triple Bottom Line
TRs	Technical Requirements
UNDP	United Nations Develoment Programme
ZCCM	Zambia Consolidated Copper Mines
ZACCI	Zambia Chamber of Commerce and Industry
ZAM	Zambia Association of Manufacturers
ZANEEP	Zambia Network of Environmental Educators and Practitioners
ZCSMBA	Zambia Chamber of Small and Medium Business Association
ZDA	Zambia Development Agency
ZEMA	Zambia Environmental Management Authority
ZMLCI	Zambia Mine Local Content Initiative
ZRA	Zambia Revenue Authority

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Luke and Asher, the time I was deprived of spending with you was well spent. You are a blessing, and you bring me joy and true happiness.

DEDICATION

To my little princess, Chloe Selina

1.0 INTRODUCTION

The introduction chapter of this thesis provides a rationale for embarking on this research and hence the relevance of the research. The chapter initially offers a discussion on the economic importance of the mining industry worldwide and its activities that negatively impact the environment. This is followed by the problem statement and the research objectives. It then highlights the significance and contributions of the research and the challenges of undertaking research with SMEs in developing countries. Finally, it provides a general outline of the whole thesis.

1.1 Background

Mining is among the world's earliest industrial activities, and its products continue to be fundamental to modern civilization. The growing demand for mineral resources was a prime incentive for the expansion of ancient empires and still motivates mining corporations to cross borders in search of broader opportunities (Camus 2002). The mining industry is an important source of employment and wealth creation worldwide. Minerals are basic raw materials that for centuries have contributed to the growth of economies of both developed and developing countries. However, the recent economic growth in many emerging economies has meant that the mining activities are intensified, which most often leads to massive environmental degradation and depletion of natural resources. Thus, extractive operations invariably lead to a variety of environmental problems, such as soil erosion, tailing contamination, oil spills, cyanide release, dust or noise nuisance, acid mine drainage, climatic problems, disturbance of the landscape, emission of harmful gases, health and safety threat to workers and surrounding communities, and disruptions in the eco-system (Muduli et al. 2013). Companies that have found themselves on the wrong side of environmental regulators and communities have turned to sustainable supply chain management (SSCM) to eliminate or minimize environmental degradation in all their supply chain (SC) activities (Hervani et al. 2005). Consequently, Companies are adopting SSCM to avoid stiff environmental penalties, pressure from demanding stakeholders and to be seen as "good citizens" (Allen 2016).

Mining activities mainly comprise of exploration, ore mining and maintenance activities. These activities all have a potential to impact the environment negatively, thereby threatening future opportunities for sustainable industrial development and economic growth (Kusi-Sarpong et al. 2015). Furthermore, the indiscriminate and unplanned mining activities coupled with the use of traditional technology, low investment capacities, and use of unskilled workforce, over the years has significantly contributed to environmental degradation (Muduli et al. 2013). In addition, the poor working conditions and the unskilled workforce not only lead to low productivities but also result in higher energy consumption and waste production, which ultimately pollute the environment (Muduli and Barve 2011).

The privatization of industries such as mining in many developing countries, including Zambia, has brought about commercial pressure besides re-igniting the economic growth. In the case of Zambia's mining industry, this is evidenced by the signing of the development agreement (DA), which allowed the large mining multinationals enterprises strategize to save costs and maximize return on investment (ROI) (Fraser and Lungu 2007). Subsequently, the general consensus is that mine owners in their pursuit to maximize ROI, amidst low mineral prices, may cut corners or employ methods, hazardous to the environment, thereby, negatively impacting what is already a highly environmentally damaging industry. These activities often have alerted the public (stakeholders) and raised their perception of the mining industry as being a high risk to the environment. However, the pressure from stakeholders for companies to address and manage the environmental and social issues is mostly targeted at the large corporations neglecting the small businesses.

The literature in SSCM focuses on the actions of the large corporations (focal firms or leading firms), which have more resources to address sustainability problems and are more exposed to external pressure (Moyeen and Courvisanos 2012; Ghazilla et al. 2015; Wilhelm et al. 2016b). In a SC the guidelines for adhering to sustainability standards originate from the focal firms (buying firms) (Wilhelm et al. 2016b). As such, the large corporations are challenged with managing their SC relationships in order to mitigate the reputational and

operational risks that can emerge from unethical and unsustainable practices (Krause et al. 2009). Furthermore, organizations cannot achieve their sustainability targets and objectives without involving their SC partners (Hartmann and Moeller 2014), it is insufficient to focus internally on improving environmental performance while suppliers provide harmful materials (Grimm et al. 2014). As such, companies can use three strategies to extend/transfer SC responsible behaviour along with their SCs (Martela 2005). These are: establishing written supplier requirements (code of conduct) such as complying with local laws (Gimenez and Tachizawa 2012); secondly, monitoring supplier performance to verify compliance with the requirements (Gualandris et al. 2015; Liu et al. 2018); and finally, (assessment and collaboration) capacity building such as contributing to suppliers awareness, building and training on the company policy to sustainability (Grimm et al. 2016).

SSCM assists in addressing all the sustainability dimensions by combining the concepts of SCM and sustainability (Turker and Altuntas 2014), resulting in all activities of firms to increase the sustainability of their SC (Pagell and Wu 2009). In addition, SSCM refers to managing all phases of a product's lifecycle, from the extraction of raw materials through the design, production, and distribution phases, to the use of the product by consumers and its disposal at the end of the product's lifecycle, for greening the entire SC (Walker et al. 2008; Diabat and Govindan 2011).

In 2012, the Zambian government in collaboration with the World Bank group, mining, manufacturing and Small and Medium Enterprises (SMEs) sectors launched Zambia Mine Local Content Initiative (ZMLCI). ZMLCI aims to increase the use of locally-manufactured products in the mining industry, which would increase the Zambian participation in the mining industry (Global Business Report 2014). The local Content Initiative is also aimed at promoting greater industrialization of the country as locally manufactured products become an integral part of the mining SC and part of the diversification strategy to ensure sustainable economic growth and job creation beyond the mining sector (Kasanga 2012; Global Business Report 2014). In addition, the World Bank supports other initiatives that assist local SME suppliers in building their business

and technical capabilities, and enable the SMEs compete effectively and enhance their ability to supply high quality and reasonably priced goods and services (Mwanza 2007).

The Government believed that fostering relationships between local suppliers and the mining industry based on mutual trust and confidence would be a better option than regulating supply sourcing (Kasanga 2012). Furthermore, the supporting industry is very vital for determining the success of a business. Investors or large-scale firms, whether foreign or domestic, look at the reliability of the supporting industries before they make their investment decisions (Chisala 2008). Therefore, by adopting sustainable practices, SMEs will be achieving two objectives that of addressing the environmental challenges and becoming more competitive to facilitate SMEs sector growth. At the same time, the sector will be creating job opportunities, thereby, addressing the government wishes of industrialization.

Therefore, the mining SC in Zambia comprises of large and small firms supporting each other, and both contribute to the economic development and most likely all impact the environment negatively, such as pollution of air, soil and water, and land degradation (Limpitlaw 2003; Crocker 2013; Lindahl 2014). Particularly, Zambia's private sector is inundated with SME suppliers (formal and informal), which account to 97 percent of the private business, and out of which 84.6 percent are informal SMEs (Central Statistics Office 2016), implying that they cannot be ignored in the sustainable development agenda. However, the main thrust of research into sustainability focuses on the practice and behaviour of large organizations and less on small businesses (Baden et al. 2011), when certain SME activities cause pollution, pose risk and damage to nature and human health (Choongo et al. 2016).

This study is conducted in Zambia, a developing country, where sustainability concerns are evident and there is almost no external and government pressure or incentive to adopt sustainable practices (Choongo et al. 2016). Furthermore, studies on sustainability practices in Zambia have concentrated on multinational mining corporations, while research on SMEs has focused on their growth and

enhancing their capability to supply quality goods and services (Mwanza 2007; Chisala 2008; Mwanza 2009; Obby 2014; ILO 2015). The only study that has ventured in the field of sustainability is by (Choongo et al. 2016; Choongo et al. 2017). They examined the factors influencing the identification of sustainable opportunities among SMEs and CSR motivation in Zambian SMEs, respectively. Therefore, this study will examine sustainability practices amongst the SMEs. It will also investigate the barriers and drivers that SMEs face when engaging in sustainability initiatives in order to propose the mechanism for mitigation. In addition, the strategies used by stakeholders to influence SMEs to engage in sustainability initiatives and the mechanisms employed for extending the sustainability requirements up the SC will also be investigated.

1.2 Identification of Research Problem

The Zambian economy is dependent on mining, which contributes about 12 percent to the real gross domestic product (GDP) and over 80 percent of the country's exports and is the largest formal employer after the local government (Brülhart et al. 2015). However, mining is supported by small businesses (informal and formal), as suppliers of goods and services. Thus, the copper mining SCs consist of large firms, formal and informal SMEs. However, while most scholars have highlighted the adverse impact emanating from large mining firms to the social and natural environment is known (Lingenfelder and Thomas 2011; Muduli and Barve 2011; Muduli et al. 2013; Hodge 2014), little is known about the impact emanating from the SME suppliers.

Furthermore, due to the rising external pressures to extend sustainable practices to the SC level, the focus has shifted towards the first-tier suppliers as the disseminator of the sustainability practices (Ayuso et al. 2013; Grimm et al. 2014). In addition, the complexities of SC, such as the mining SC, warrant the focal firms to rely on the direct suppliers to control the sub-suppliers (Wiese and Toporowski 2013). Moreover, for the SC to be considered sustainable, all the firms in the SC have to perform well in all sustainability dimensions (economic, environmental and social) (Elkington 1997; Klassen and Vereecke 2012; Wilhelm et al. 2016b).

The large firms are known to transfer their sustainability practices but the SMEs are understood to have challenges adopting and transferring the sustainability initiatives. This is due to high investment cost and less return (Govindan et al. 2014), owner attitude (Baden et al. 2011), lack of pressure from stakeholders regarding sustainability issues (Lewis et al. 2015), lack of technology, knowledge and financial resources (Ghazilla et al. 2015), and many SMEs do not perceive their own environmental impact as significant (Petrini et al. 2018). Although, the SMEs boost employment more than large firms do because they are more labour intensive and boost economic growth and development given financial support (Beck et al. 2005; de Kok et al. 2013), the limited capabilities and resource availability in many SMEs hamper their response to environmental pressures, which in turn hurts large buying firms (i.e. Customers) (Lee and Klassen 2008). Consequently, there is a need to investigate if the SMEs extend the suitability practices to their upstream suppliers, and later alone if they practice sustainability in this part of the world, Zambia.

In addition, the developing countries have different characteristics compared to developed countries. They have a low gross national income (GNI) per capita and are lacking in human development. They are also characterized by rapid structural changes in socio-economic institutions (Keen & Wu, 2011). According to Kriauciunas et al. (2011), studies in developed countries and developing countries often differ regarding sample frames and survey administration techniques and suggest that these techniques need to be context specific. In addition, there is a drastic difference in the economic structures between the developed and the developing countries. Whereas both are supported by the vast number of small firms (La Hovary 2013), in developed countries the majority of the small enterprises are legally registered with tax authority and labour legislation and social security (formal SMEs). However, in developing countries, the majority of the small firms are in the informal sector, but significantly contributes to the job creation and poverty reduction (informal SMEs) (De Gobbi 2011; Roxas et al. 2017).

Therefore, the current SSCM frameworks developed in the developed countries are suited only for studying the SCs with formal SMEs, and inappropriate, to study

sustainability practices of SCs involving formal and informal members. Consequently, there is a need to interrogate the current frameworks and then propose a new framework tailored for developing sub-Saharan countries that can help policymakers assimilate the sustainability practices by SMEs, thereby formulate measures that may enhance their sustainability performance.

1.3 Research Aim and Objective

The motivation of this study stems from an interest in investigating the way in which the sustainability phenomenon in the SMEs sector is practised as influenced by stakeholders in a developing country setting, specifically Zambia. Therefore, the aim of the study is:

> *To provide the decision-makers (policymakers and senior managers of focal firms) with better decision-making support tools*

Based on the research aim the research objective is:

> *To develop a detailed stakeholder framework that helps to analyse and better understand the SME environment with regard to sustainability practices in the mining industry in Zambia.*

Based on the research objectives the main research questions are:

- *Do SME suppliers in the mining supply chain engage in sustainability practices?*
- *How are SMEs influenced by stakeholders when adopting sustainability practices in the mining supply chain?*

To comprehensively address the primary research questions in line with the research objective, it became apparent to sub-divide the primary research questions into the following subordinate questions (RQ1-RQ7);

RQ1) What are the current sustainability practices among the SME suppliers in Zambia?

RQ2) Who are the stakeholders and what do they expect from SME suppliers in the mining SC?

RQ3) How do SME suppliers transfer sustainability requirements imposed by their stakeholders to their suppliers?

RQ4) How do stakeholders engage SME suppliers in sustainability initiatives?

RQ5) What barriers do SME suppliers face when adopting sustainability practices?

RQ6) What are the mechanisms for overcoming the barriers SME suppliers face in implementing sustainability practices?

RQ7) How can SME suppliers be motivated to practice sustainable development?

1.4 Theoretical Approach

There are multiple organisational theories that may be employed in examining stakeholders in SSCM. This study adopted the lenses of stakeholder theory in the development of the stakeholder framework, which facilitates an examination of the different players and their relationships in a SC, whether it be economic, political, religious or social. Stakeholder theory is concerned with the nature of stakeholders' relationships with the firm in terms of both processes and outcomes for the firm and its stakeholders (Freeman 1984; Phillips 2003).

Although SC comprises of numerous independent members each wanting to maximize their objectives, sustainability problems may be caused by a single firm. As such, to achieve a strong and successful sustainable SC, all stakeholders in the SC need to work together. Therefore, the adoption of a stakeholder theory helps to achieve synergy in a SC through the analysis and management of stakeholders. Furthermore, in developing countries, like Zambia, supply chains comprise of large and small firms, formal and informal. The small firms dominated by informal SMEs stay close to their area of residence. Such informal SMEs are of low visibility and have no fixed abode. Therefore, stakeholders can promote or exert pressure on such SMEs to engage in sustainability. Consequently, the adopting stakeholder theory facilitates a better understanding of the importance

of various groups and individuals with a stake in the firm, who can affect or are affected by the firm's decisions in pursuing its objectives. The theory is also understood to be a helpful framework within which SMEs themselves are able to make sense of their activities (Murillo and Lozano 2006).

1.5 Significance and Contribution of the Research

This study is relevant in the following ways:

First, the findings of the study will provide a comprehensive understanding of SMEs in Zambia, their barriers and drivers they face when engaging in sustainability which will be helpful for policy-makers. This is because the barriers and drivers to some extent determine the success and failure of SMEs.

Secondly, by knowing the key determinants that foster sustainability practices in the sector, the study will provide important insights to policy-makers to propose incentives to encourage SME suppliers to take up sustainability initiatives.

Lastly, the findings of the study will enhance the recognition and visibility of the role of the informal SMEs in developing economies, thus providing a voice for this less heard from a body.

This research will contribute to academia in the following way:

First, the study will contribute to the sustainability literature by exploring the sustainability practices of SME suppliers in the mining industry in the context of a developing country, Zambia.

Secondly, the study will contribute to stakeholder theory by presenting a way of extending or involving the SME suppliers in the sustainability phenomenon, thus highlighting the mechanisms for extending sustainability requirements.

Lastly, the proposed stakeholder framework will provide supporting tools for practitioners for analysing and understanding the SME environment in developing economies, thereby providing a systematic way of investigating the sustainability phenomenon in the context of informal SMEs in developing countries, thus, filling the gap in the literature.

1.6 Challenges of Undertaking Research with SMEs in Developing Countries

Researching on SMEs in developing countries, including Zambia, may pose some challenges that may limit the validity of the research. In developing countries, including Zambia, most micro and small firm owner/managers have limited formal education and as such do not have relevant skills or tools to capture data on their operations accurately. Even for the owner/managers with sufficient formal education, they are too busy to record all their business activities and have a tendency to rely on their memory. They also do not have a sophisticated management information system. In addition, SME owner/managers have tend to not keep accurate records of their activities as a way of safeguarding access to information on their actual performance from their competitors and tax authority.

SME owner/managers are busy individuals who work for long hours and do not delegate work. They tend to devote extended long hours of their time to their business to ensure success; hence, it is difficult to access them to make an appointment. Some may not appreciate the value of research and as such will not participate or provide information needed for the research. This exerts pressure on the researchers who have to explain the importance of the research to obtain access to the relevant data (Curran and Blackburn 2001).

In Zambia, most SMEs are informal, and as such, it is difficult to locate them. The few formal SMEs rarely update their records with relevant authorities in the case of change of business or location. Hence, the regulators find it difficult to monitor their activities. Many SMEs are family owned; therefore, business discussions are done informally and do not keep detailed reports of such discussions since they do not have a board of directors to report.

In developing countries like Zambia, the legislation does not compel the SMEs to submit an environmental assessment report before a license to start a business is issued. As such, SME owners do not consider environmental problems to be their concern. Therefore, sectorial secondary data is non-existent, which could provide information about their operation. In order to overcome this situation,

primary data will be collected using exploratory interviews and chatting with SME owners/managers, purchasing managers in focal firms, local community leaders, managers of NGOs/CBOs, government agencies and trade associations. In order to access the research participants purposive and snowball sampling techniques will be employed. These methods are discussed in detail in Chapter 4.

1.7 Structure of the Thesis

This thesis will consist of **seven** chapters.

Chapter one: An introduction to the thesis, with an overview of the scope of the study, the research aim and objective to address the gaps in the literature.

Chapter two: This chapter presents an overview of mining industry in Zambia. The chapter starts with an overview discussion on the country profile, and then the demographic profile followed by mining profile. It then discusses the mining suppliers, the contribution of SMEs to the economic growth, millennium development goals and the SME challenges in adopting sustainability practices.

Chapter three: The critical review of critical relevant concepts and theories are debated in this chapter. This includes an examination of the concepts of supply chain management and sustainability, sustainable supply chain management, sustainability practices and stakeholder theory. In addition, the chapter reviews the governance mechanisms for extending sustainability requirements to suppliers, the barriers and drivers to the implementation of sustainability practices. The chapter also highlights and discusses the conceptual framework adopted for this study. The chapter concludes with the identification of the research gaps.

Chapter four: The chapter discusses and justifies the research methodology and research design employed in this thesis. This includes the underpinning research paradigm of this study, sampling, data collection and analysis methods, research ethics, and methodological limitations.

Chapter five: This chapter presents the empirical data collected using the semi-structured interview for this research. The findings are divided into themes (using Nvivo 10) supported by direct quotes from the interviews.

Chapter six: The key findings in the light of stakeholder framework and existing theory of Chapter three and their implications are discussed. The chapter concludes with a discussion of answers to the research questions to achieve the objective of the thesis.

Chapter seven: The chapter presents the conclusion of the thesis. It presents the summary of the key findings, contributions to the academia and practice, limitations of the study and recommendations for the future avenues of research.

2.0 THE ROLE OF MINING INDUSTRY IN THE ZAMBIAN ECONOMY AND SOCIETY

2.1 Introduction

The purpose of this chapter is to put the mining sector in Zambia, in particular, the copper mining, into context. This is particularly important considering that SME suppliers support the sector. It is, therefore, important that the history of mining in Zambia is discussed and its contribution to the country's GDP and the SMEs sector. A discussion of mining in Zambia will be helpful in providing a better understanding of its importance to the Zambian economy and its impact on the sustainability agenda.

The chapter starts with a discussion of the historical background to mining in Zambia, nationalization and privatization of the mines. This is followed by a deliberation on the SMEs situation in Zambia and developing countries, and their contribution to the global economy, in order to have an appreciation of SMEs' contribution to the global economic growth. The millennium development goals (MDGs), more specific goal number seven (7)-environmental sustainability and SMEs challenges to sustainability are also discussed. It is particularly useful to the readers of this study who might have little or no knowledge about the historical context of the Zambian mining sector and its link to small businesses.

2.2 Country Profile

2.2.1 Geographic profile

Zambia is a landlocked country located in southern Africa with a coverage area of 752, 612 km^2. 10 countries surround it, the Democratic Republic of Congo (DRC) to the North, Tanzania in the North-East, Malawi in the East, Mozambique, Zimbabwe, Botswana and Namibia to the South and Angola in the West. The country has ten (10) provinces, namely Lusaka, Southern, Eastern, Western, Northwestern, Northern, Central, Luapula, Muchinga and the Copperbelt provinces. Figure 2.1 shows the provinces of Zambia and its surrounding neighbouring countries.

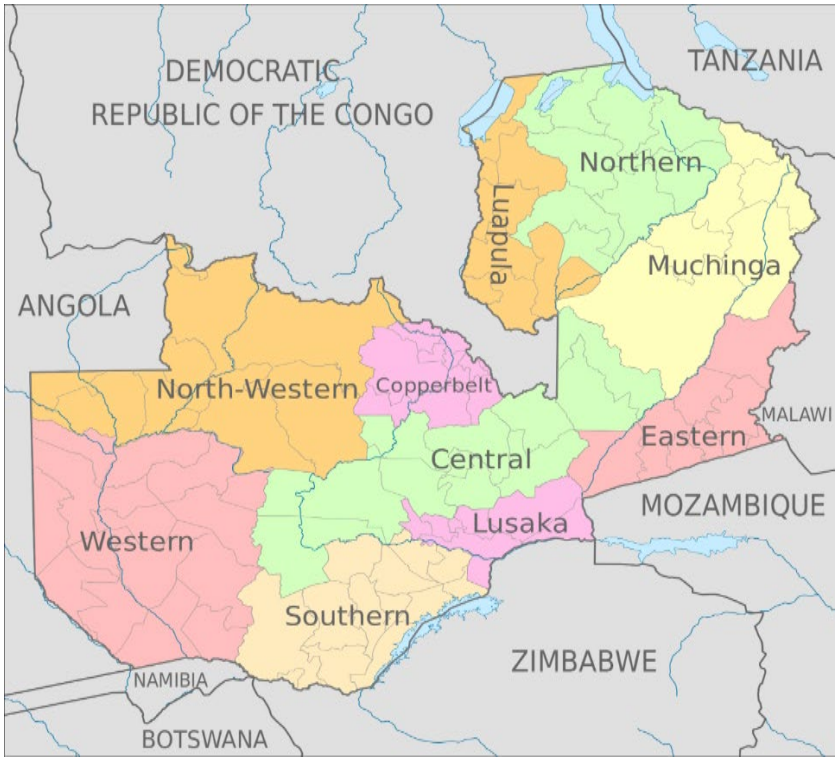


Figure 2.1: Provinces of Zambia

Source: Central Statistics Office (2013)

2.2.2 Demographic profile

Zambia is a sparsely populated country with over 15 million inhabitants. It has out of the total population, a working age population (15 years and above) of 8,149,797, from which 6,329,076 (77.7%) were in the labour force (i.e. economically active) but only 5.85 million people (71.9%) in employment while 22.3 percent were economically inactive (Central Statistics Office 2016). The private businesses accounted for the highest percentage share of the labour force, 57.6 percent, followed by the central government with 28.1 percent (*Ibid*). There were 4,914,969 persons employed in the informal sector whilst the formal sector employed only about 944,256 people, see Figure 2.2 for details (Central Statistics Office 2016). Consequently, the informal sector accounts for 84.6 percent of the total employed persons, and only 15.4 percent accounted for the formal sector.

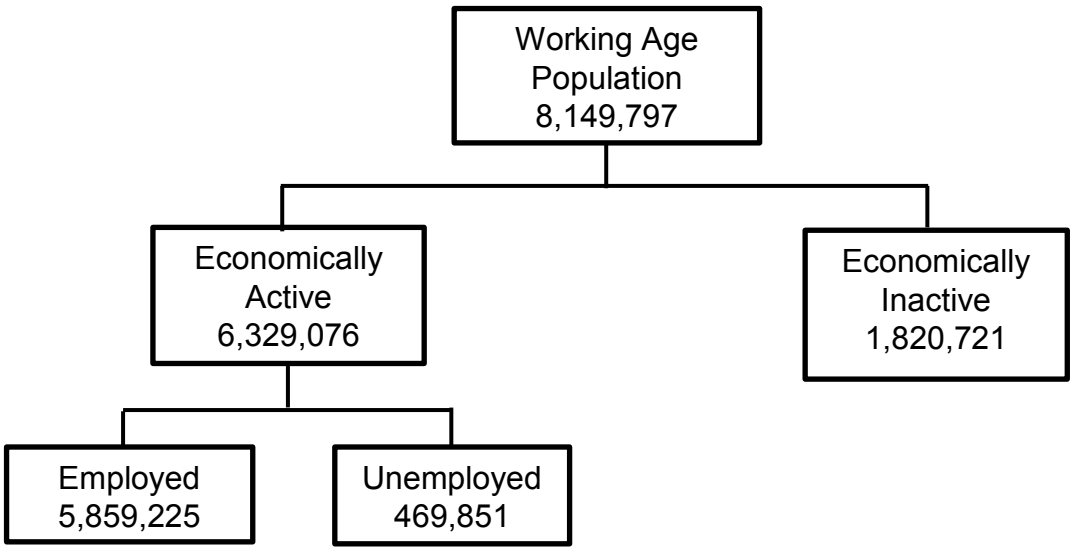


Figure 2.2: Main Categories of the Labour Force Framework

Source: Central Statistics Office (2016)

2.2.3 Mining profile

Mining in Zambia can be traced back to 350 AD (Limpitlaw 2003), and remains the country's dominant industry (International Council on Mining and Metals 2014). Currently, Zambia is the second largest producer of copper in Africa and eighth in the world (Copper Investing News 2015), producing some 730, 000 metric tons in 2014 (Statista 2015). The copper ore deposits are mainly found in the Copperbelt region, located on the border of Zambia and the Democratic Republic of Congo and the region is the world's most significant sources of copper ore. However, the ownership of mines has undergone a sequence of radical changes. Initially, a private industry under the colonial administration followed by state ownership after the nationalization of the industry and back to private ownership (International Council on Mining and Metals 2014). These changes in managing the portfolio of mining operations significantly impacted on the production levels. At the time of nationalization, copper production was around 730,000 metric tons. By the year 2000, the production levels had fallen to about 255, 000 metric tons. However, after privatization, it started to rise and by 2014, it had reached 770,000 metric tons (Limpitlaw 2011). See Figure 2.3 for details.

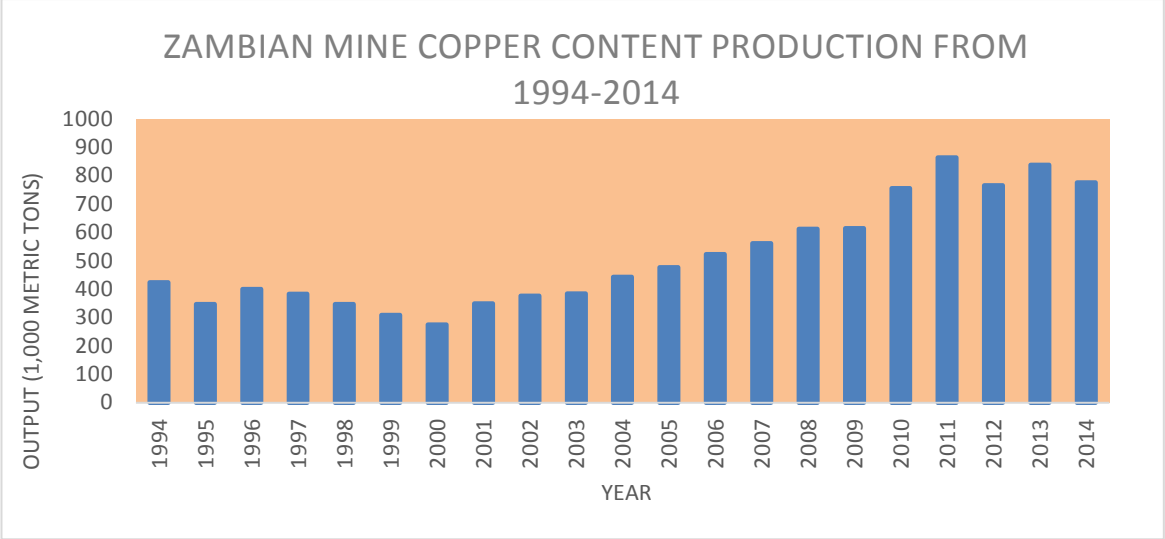


Figure 2.3: Annual copper production for a period of 20 years

Source: Copper Development Association (2015)

The commercial mining began in 1928, at Roan Antelope (now Luanshya). During the colonial era (until 1969) the sector was owned and controlled by two private companies: Roan Selection Trust (RST) and Anglo American Corporation (AAC) (Hampwaye et al. 2014). Since this was an early period of the mining sector, it was characterised by increased mineral production, but with little development of the local infrastructure. When Zambia got its independence in 1964, its first president, Kenneth Kaunda with his philosophy of "Zambian humanism" embarked on the development of the local infrastructure using revenue from the mines. Kaunda and his government pinned their national development in the rapid growth of the copper industry driven by favourable copper prices of the 1960s and 1970s (Limpitlaw 2011).

In 1968, the government raised concerns over the limited revenue coming from these two companies. Although the companies claimed that the royalty system by which they were taxed deterred investment, in 1969, the Matero reforms of 1969, nationalised major parts of the economy, including the mines, a process referred to as the Zambianization process (Hampwaye et al. 2014). The private firms were forced to transfer 51 percent of their shareholding to the state. The nationalized companies in 1982 were combined to form Zambia Consolidated Copper Mines (ZCCM) (Fraser and Lungu 2007).

There was unhindered rapid infrastructure development in the first decade of independent Zambia. However, it was slowed down by the declining copper prices and the oil crisis of 1974 and 1979. Nevertheless, the government did not want to scale down the infrastructure development and social provisions. Hence, other sources of revenue were considered such as borrowing from the international community. In fact, many other countries saw the oil crisis of the 1970s as a temporary problem and, therefore, responded by borrowing from the international capital market instead of stabilising the market. However, the period 1980-1985 was characterised by another oil shock, global economic recession, high international interest rates and abrupt cut-offs in external financing, which marked the beginning of the steep economic decline for many African countries, including Zambia (Lyakurwa 2005: 152-177).

The mining industry was under the state control and ownership for three decades (1969-1999). During this period, the mining industry was treated as a “cash-cow”, milked without a corresponding investment in machinery and prospecting ventures, as had been the case before 1969. Coupled with mismanagement and rising average production cost due to the fact that the ore bodies within the existing mines could only be accessed at greater depths, copper production declined further and by 1999, the production levels were at their lowest, 255, 000 metric tons, plunging the country into substantial foreign debt as it borrowed to sustain the development and social provisions. See Figure 2.3 for details (Lungu and Kapena 2010; Limpitlaw 2011).

The nationalization of the mining sector took place as copper prices entered a slump in the 1970s and 1980s. ZCCM was squeezed by falling income and the costs of expanding social responsibilities. A combination of low prices and lack of capital to re-invest resulted in the production of copper falling to less than 40 percent of that produced at the beginning of the national ownership (International Council on Mining and Metals 2014). As such, ZCCM’s operations became increasingly unprofitable *(ibid)*. In order to attract the much needed foreign investment to recapitalize the mines, the industry had to be reprivatized.

The privatisation of the mines began in 1996 and was guided by the mines and the mineral act of 1995. Although the government retained a minority shareholding, the mines were privatised at the time when copper prices were at their lowest. As such, the government had no negotiating leverage and was forced to sign a DA which turned out to be lucrative for the new mine owners (Fraser and Lungu 2007). For example, it allowed the new owners to strategize on maximizing returns on investment by scaling down workforce and social provisions (Hampwaye et al. 2014). However, the decision by the new mine owners to concentrate on the core mine business threatened the sustainability programmes initiated under ZCCM. For example, there was a significant increase in absenteeism as a result of increased malaria prevalence due to the cut in the preventative health systems (Fraser and Lungu 2007).

Nonetheless, the opening up of the sector to foreign investment combined with a resurgence in copper prices, and by 2011, the price of copper had increased four-fold (Koka 2013), see Figure 2.4 for details. The high copper prices attracted more foreign companies to explore for mineral deposits. This led to the discovery of more copper deposits in the north-western region of the country. For example, Kansanshi mining PLC owned by *First Quantum Minerals Limited* which opened in 2005, and Lumwana mine owned by a Canadian company “Barrick Gold Corporation” which was commissioned in 2008. The region is now referred to as “the new Copperbelt”. Before the discovery, mining had been concentrated in the Copperbelt region. The renewed mining activities not only increased the copper production, but also stimulated economic activities such as employment opportunities for locals and support sector like SME suppliers (Walters 2010).

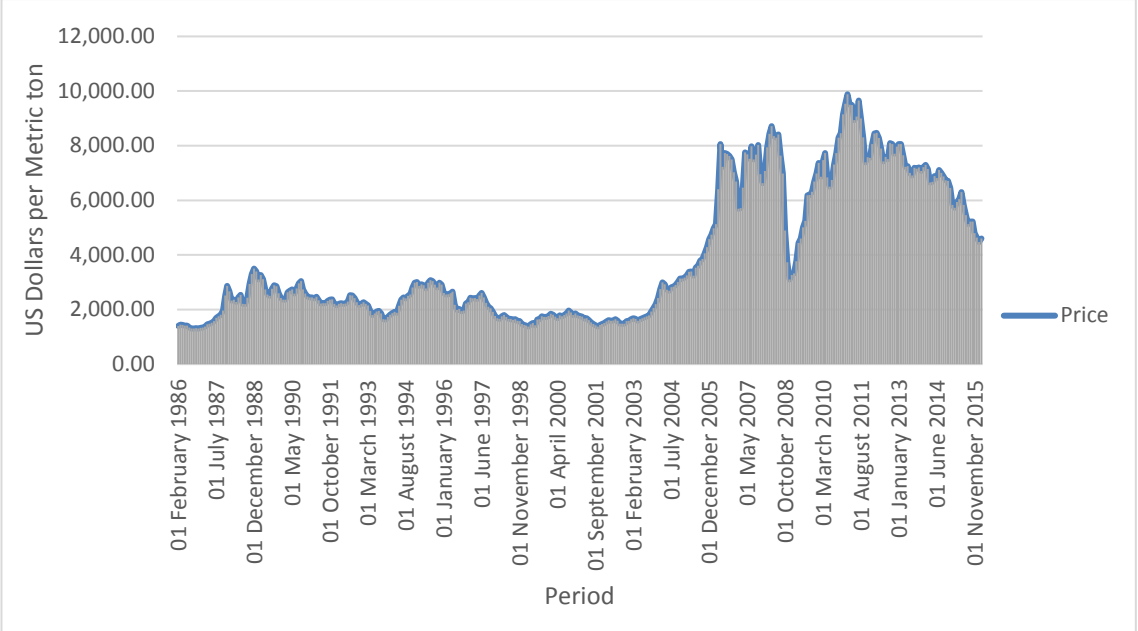


Figure 2.4: World Copper Prices-1986 to 2016

Source: World Databank & Index Mundi (2016)

2.2.3.1 Economic contribution of mining

The historical role of the copper mining in the Zambian economy and society from colonialism to present cannot be disputed. Soon after commercial mining began, the sector was responsible for the provision of clean and orderly compounds to house employees. In addition, the sector supplied food rations to the employees on a weekly basis. The mine management also ensured that hospitals were adequately staffed with competent medical personnel, in addition, to providing recreation clubs for employees with much sporting entertainments. However, under the colonial rule Zambia (then Southern Rhodesia) was understood by the authorities, principally as a source of mineral wealth to support much more significant industrial, social, educational and governmental infrastructure in Zimbabwe (then Northern Rhodesia). As such, little effort was made to develop educational and health infrastructure in Zambia (Fraser and Lungu 2007).

At the time Zambia got its independence, it had a population of four (4) million. However, it was estimated that less than 0.5 percent of the population had completed primary education. The country had just 107 graduates (Ferguson 1999). Backed by the excellent copper prices, Zambia's first president embarked

on infrastructure development that would spur industrialisation and bring an end to poverty (Lungu and Kapena 2010). After the nationalization of the mines, the sector reflected the government's developmental philosophy by widening its scope in supplying amenities. This included free education for miner's children, subsidised housing, food, electricity, water and transport. In some mine towns like Nchanga and Konkola, no government hospitals existed; non-mine employees and their dependents depended on the mine hospitals. During the years of good copper prices, mining contributed over 50 percent of the country's foreign exchange and two-third of the central government (Fraser and Lungu 2007).

It is estimated that mining contributes about 12 percent to the real GDP and over 80 percent of the country's exports (Brülhart et al. 2015). However, these figures represent only 3-5 percent in taxes, in contrast to the worldwide taxes of 25-40 percent of export revenues, these are meagre tax figures (International Council on Mining and Metals 2014). For example, in 2011, the mining industry exported minerals wealth US Dollars 10 billion. However, the Zambian government collected only US Dollar 240 million in mining tax revenue, which amounts to just 2.4 percent of the total revenue from mineral exports (Koka 2013). The low tax figures lie in development agreements[1]. Going forward, the economic growth lies in the small scale sector, which represents the largest share of the private business.

2.2.3.2 Sustainability in Zambia's mining industry

Although the mining industry has significantly contributed to the national economy, it has also been named the "evil sector" because of its repeated impact to the social, economic, cultural and environmental changes (Bhatasara 2013). By its very nature, the mining industry, just like the oil and gas industries, leaves behind a "footprint" an environmental, social and economic impact (World Bank

[1] Development Agreements signed by the government at the time of privatization gave away generous tax concessions. They not only cover the taxation issues but also cover management of the environment and social service, and the responsibility of the companies to employees, communities and the local economy.

and International Finance Corporation 2002). Bebbington and Bury (2009), observed that in the least developed economies, the growth of mining offers the potential to generate new resources for development, but also creates challenges to sustainability in the towns where mining is conducted.

When the mine ownership was under the state, ZCCM provided almost everything that held society together in the mine townships: jobs, hospitals, schools, housing and a wide range of social services including managing the environment, routine analysis of water, maintaining roads and collecting refuse and HIV/AIDS and malaria programmes. Such that within other communities, malaria and diarrhoeal diseases were the primary cause of mortality, but in the mining townships, more deaths were from mine accidents than preventable diseases. However, after privatization, the new mine owners refused to take up this responsibility. They were more interested in the core business of mining copper and maximizing their ROI. As a result, noticeable changes began to show such as heaps of refuse and residents started to dig pits to throw the rubbish within the housing areas, bringing about an increase in flies and diarrhoeal diseases. There was also mismanagement of the environment and compromise to the health of local people as a result of sulphur dioxide emissions from smelters, heavy-metal effluents being released into drinking water and silting of local rivers (Fraser and Lungu 2007).

Other reasons for the increase in environmental degradation was that in negotiating their DAs, the new mine owners refused to take on the ZCCM liabilities, thereby, avoiding responsibilities for cleaning up pollution problems resulting from the facilities that they own but which were created by ZCCM operations. Besides the environmental and social responsibilities, ZCCM conducted business with local suppliers. When the mines were under the state ownership, there were about 400 suppliers most of which had a long-term collaborative relationship. After privatisation, the DA signed between the state and the new mine owners allowed importation of equipment and supplies. In addition, the new mine owners brought their home suppliers' base to Zambia (Hampwaye et al. 2014). As such, each mining company ended having its own supplier database of thousands of suppliers. Furthermore, the awarding of a

tender to supply is based on price, but can also be based on lead time, quality and brand. However, the final decision as to which SME should be awarded the tender rested with the individual mine management. Therefore, in order to increase their chances of winning the tender, SME suppliers have multiple lines of interest (Kasanga 2012). For instance; the mines categorize items/area of supply such as mechanical, electrical, stationery, hardware, construction, labour hire to name a few. The SME suppliers are then required to indicate their area of specialization and interest. However, SME suppliers frequently register for more than one area of interest, in order to try their luck in the bidding process. In addition, privatisation led to the retrenchment of many workers. The retrenched workers formed own businesses often referred to as “brief-case” businesses, which they registered with mining companies as suppliers. These small-scale businesses (informal enterprises) born out of necessity added to the existing number of SME suppliers and are likely to exhibit different orientations to essential social and environmental functions (de Kok et al. 2013; Demuijnck and Ngnodjom 2013).

However, with regards to the sustainability agenda, the main focus has always been, and is still on, large firms and multinational corporations. Small-scale firms plays a major, if not the most important role in economic development, but yet they have been side-lined in the environmental debates, fall below or are outside the compliance requirements of environmental legislation, their environmental behaviour governed by regulation not an environmental ethos (Spence 1999; Hillary 2000). The regulators only exert pressure on the large firms which have the resources and affect a large number of the population (González-Benito and González-Benito 2006), because they are perceived that, if they were to adopt sustainably practices, the results would be immediate and significant.

Nonetheless, their capacity to carry out environmental monitoring and enforcement is weak (International Council on Mining and Metals 2014). Bhatasara (2013) also noted that in developing countries the evidence of positive effects in terms of sustainability is weak. The mining-sustainability nexus is characterized by conflicts regarding livelihoods, the environment, culture and social relations. According to Moyeen and Courvisanos (2012), SMEs operate

"on the ground" and have closer links to the local communities and as such are better positioned and equipped to design appropriate sustainability strategies to address the needs of the local communities and the environment. SMEs are also considered more capable than their large counterparts to respond to social and community needs due to their flexible organization and simple structure (Sweeney 2007).

2.3 SMEs Situation in Zambia

In Zambia, the private businesses comprise of a small number of large firms and the vast majority of small-scale businesses, both formal and informal. Micro, Small and Medium enterprises cut across all sectors of Zambia's economy and provide one of the most prolific sources of employment and wealth creation and are a breeding ground for industries. Accordingly, SMEs account for 97 percent of all the private businesses with 84.6 percent of that being informal SMEs, and the sector is defined as shown in Table 2.1 (Central Statistics Office 2016).

Table 2.1: Classification of MSMEs in Zambia

Size	Employee, total	Annual turnover (K'000)	Total Investment (K'000)	Legal Status
Micro	Up to 10	Up to 150	80	Majority in informal sector
Small	11-50	151-250	81-200	Most in informal sector
Medium	51-100	251-300	201-500	Most in formal sector
Large	101 or more	301 or more	501 or more	All in formal sector

Source: Ministry of Commerce Trade & Industry (2009)

2.4 SME Sector in Developing Countries

In developing countries, the SMEs sector, mainly small-scale businesses, are burgeoning, but their exact numbers are not readily available due to unreliable and unavailable statistics (Azmat and Samaratunge 2009). However, it is estimated that there are between 365–445 million formal and informal MSMEs in the developing world, employing about 90 per cent of all workers. Out of this total,

only about 25 million to 30 million of these firms are formal SMEs (5 to 250 employees). More than 90 per cent are either formal enterprises with fewer than five employees or enterprises that are not formally registered (Chironga 2012; Page and Söderbom 2015).

According to Small Business Council (2004: 8), informal sector is defined "as work that involves the paid production and sale of goods or services that are unregistered by or hidden from the state, for tax and/or benefits purposes, but which are legal in all other aspects". The sector has traditionally been perceived as a catch basin for women and men who cannot find jobs in the formal sector and who are therefore pushed to take any work or create their employment through small, even marginal, economic activities. Therefore, it is associated with the poor and low-income earners. However, not every individual in the informal sector can be said to be poor. Some individuals could have started operating on the margins, but through their dynamism, have developed their businesses and broken out of poverty (La Hovary 2013). There are also firms that are formal, but choose to remain informal in some aspects (i.e. involved in bad business practices) such as failure to declare to tax authorities or have not registered their owners and workers with the social security system. In some cases, the informal actors can earn more than their formal counterpart, but they still choose to remain out of the primary circuits of market exchange and state protective systems (Azmat and Samaratunge 2009; La Hovary 2013).

The informal SMEs are solely owned enterprises and/or may have up to a maximum of five employees, are not registered, have no brand capital, low public visibility and do not pay any taxes. Their operations and activities are mostly unregistered, unregulated, and unable to access organized markets or institutional support. Even when registered and observing some aspects of the law, they are often unprotected in the workplace by social security and labour legislation. However, the informal sector has continued to grow worldwide and play a significant role in employment creation, income generation and production in many countries. From 37 percent of GDP in the 1990s to approximately 50-75 percent by 2010 in developing economies (Charmes 2012), and employing 40-80 percent of the working population (World Commission on the Social Dimension

of 2004). For instance, it is estimated to be around 72 percent of non-agricultural employment in sub-Sahara Africa, 71 percent in Asia, 51 percent in Latin America and 47 percent in the Middle East and North Africa. In many developing countries the contribution is as high as 75 percent (La Hovary 2013). Table 2.2 below gives a summary of the main features of SMEs in developing countries as identified across relevant literature sources.

Table 2.2: The main features of SMEs

	Small individual enterprises (informal)	**Small and medium enterprises (SMEs)**	**Large companies (MNCs)**
Formal sector	No	Yes	Yes
Informal sector	Yes	No	No
Brand visibility	No	Yes	Yes
Registration	No	Yes	Yes
Tax	No	No/Yes	Yes
Business form	SIEs	SMEs	MNCs
Number of employees	Sole owned or up to a maximum of five employees	Fewer than 250 employees	More than 250 employees
Labour	Labour intensive	Mainly labour intensive	Capital intensive
Information/data	Unreliable/unavailable	Available	Available
Sustainability	Responsible entrepreneurship	Responsible entrepreneurship/ sustainability	Sustainability

Many factors are contributing to the rise in the informal sector, and Baruah (2004), has noted the factors as the market-oriented development approaches, reduced role of the state, rapid urbanisation, increasing landlessness, inadequate social security programmes and unemployment due to privatization. These changes have forced an increasing number of people to become self-employed and emerge as a means to survive.

SMEs practices in developing countries differ from those practised in developed countries, and understanding these differences is critical to the development and understanding of SMEs in developing countries. According to de Kok et al. (2013), many of the small enterprises in developing countries are informal firms of micro size with low productivity that are born out of necessity and operate in crowded market segments with low entry barriers. Thus, they are forced to be

entrepreneurs for their survival rather than being classic entrepreneurs driven by challenge, inheritance, and independence. They are generally from the lower class, have little education and are likely to be driven by economic motives as they struggle to survive for existence. Another feature of SMEs is their small size and their link with local markets only. They do not have any brand capital or any national/international exposure, but instead have low public visibility and are not aware of the importance of developing a trusted relationship with the customers. Furthermore, they generally are primarily alienated from local, social and political life, and concentrate narrowly on their business activities. This can be explained by their low public status and their low level of education, which makes them feel neglected and abandoned (Azmat and Coghill 2005; Lingelbach et al. 2005; Azmat and Samaratunge 2009). However, Spence (2007), reported that proximity is one of the factors in small firms that makes them more socially responsible, which, however seems to be unlikely for SMEs in developing countries due to the smallness of their size involving just themselves.

On the other hand, it has been found that SMEs in Europe are more actively involved in sustainability when they have great relationship networks (Perrini 2006). In fact, social capital and relationship networks have significant implications for their socially responsible business practices in terms of developing a responsible entrepreneurial culture that values reputation, customers, honesty, integrity and the welfare of the society (Azmat and Samaratunge 2009). According to Sheehy (2006), consumer loyalty and trust are increasingly being recognised as an essential ingredient for businesses, no matter their size, to gain a unique competitive position among their competitors. SMEs in developing countries in most cases are not aware of the importance of having a good reputation, networking with stakeholders, building on customer trust and loyalty due to their low level of education and awareness, which undermine their social capital and explain their lack of responsible entrepreneurship (Azmat and Samaratunge 2009).

Therefore, given the different context in terms of cultural traditions, market setting, ineffective legal regulatory frameworks, lack of institutional safeguards, low levels of economic development and public awareness, suggests that SMEs

practices differ from those in developed countries. In fact, it can be accepted to state that SMEs in developing countries operate within the framework of a different and a problematic context. However, this does not imply that they all practice bad business practices. There are some that are managing to forge a responsible orientation, despite very constraining contextual realities (Azmat and Samaratunge 2009).

According to Bevan and Yung (2015), SMEs do practices sustainability; however, they do not refer to the practices in sustainability terms due to lack of specialised staff and the time needed to produce these reports (Ibrahim et al. 2012). Perrini (2006), observed that SMEs do not have written sustainability policies but does not mean that they do not engage in sustainability practices. Their social and environmental activities are less formal, a situation which makes their sustainability practices unidentifiable and more challenging to observe. SMEs, due to their low visibility perceive that there is not much incentive to report on sustainability actions to prove their social engagement (Demuijnck and Ngnodjom 2013). They respond to the urgent needs and concerns of their communities without necessarily framing this in sustainability terms or describing it as such. Such practices are their day to day operations (Ibrahim et al. 2012).

This sector has shown that in developing countries, the SMEs sector is dominated by the informal SMEs, and that their characteristics, which mainly relates to poverty, considerably different from those of their counterpart in developed economies, especially in terms of an entrepreneurial environment for small business owners (Ibrahim et al. 2012). This, further, suggests that the frameworks and theories developed in the developing countries may not be appropriate for use to analyse SMEs' sustainability practices in these less developed countries. In the next sector, their economic contribution is deliberated.

2.5 SMEs Contribution to Economic Development

The SMEs sector was once consigned by many to the periphery of an economy. However, their number and importance have since the 1980s, been rising and today SMEs are the primary driver of economic development. SMEs have been

recognized for the role they play in the growth of the economy globally in both developed and developing countries (Ghazilla et al. 2015). Scholars have suggested that in developing countries the contribution of SMEs towards employment generation is relatively higher than that of large corporations because they tend to use more labour intensive production processes, boosting employment and leading to more equitable income distribution. In addition, to the alleviation of poverty and creating revenue for themselves (Sodhi and Tang 2014), they significantly contribute to national revenue and foreign exchange earnings, SMEs also provide livelihood opportunities through simple, value-adding processing activities, nurture entrepreneurship and support the building up of systemic productive capacities and the creation of resilient economic systems, through linkages with the large enterprises. Consequently, they are the bedrock of many economies and a source of innovation and entrepreneurial spirit (Sodhi and Tang 2014; Ghazilla et al. 2015; Aghelie 2017).

For instance, globally the SMEs accounted for 70 percent of gross national product (GNP) (Ilomäki and Melanen 2001) and two-thirds of all jobs worldwide (ILO 2015). In Europe, there are estimated 22 million SMEs representing 99 percent of all firms, employing 89 million people and create about 85 percent of new jobs and generating around Euro 3700 trillion in added value (European Commission 2015; ILO 2015; Viesi et al. 2017). The economic contribution of SMEs in some countries is shown in Table 2.3.

Table 2.3: SME contribution by country

Country	Contribution	Reference
Algeria	SME comprised 99% of the country's total enterprises	(Bouazza 2015)
Argentina	SMEs accounted for 60% of the jobs were created	(ILO 2015)
Belgian	SMEs represented 99%t of all enterprises	(ILO 2015)
Canada	There was nearly 2 million SMEs, with the vast majority (98%) having fewer than 100 employees.	(Perron 2005)
China	SMEs accounted for 90% of all firms with a total turnover of 3635.3 billion yuan represented 63.1% of all firms and 50% of tax revenue.	(Xie et al. 2010), (ILO 2015)
Egypt	SMEs made up 95% of the private sector, 80% of employment and GDP, 75% of exports, and 10% of total industrial production.	(ILO 2015)
Finland	SMEs accounted for 99.7% of all enterprises and 58% of employment	(Ilomäki and Melanen 2001)
France	SMEs represented more than 95% of enterprises	(ILO 2015)
Ghana	SMEs accounted for 92% of businesses and contributed about 70% to nation's GDP	(Abor and Quartey 2010)
Hong Kong	SMEs accounted for 60% of total employment from approximately 300,000 business enterprises	(Studer et al. 2006)
Hungary	99.9% of enterprises were SMEs, employing 72.7 per cent of workers in the private sector	(ILO 2015)
India	45 million MSMEs employed almost 106 million people, & represented 45% of the industrial output, and 40% of exports.	(Mathiyazhagan et al. 2013), (ILO 2015)
Japan	SMEs accounted for 99.7% of enterprises and 69.7% of all workers.	(ILO 2015)
Kenya	SMEs represented 80% of overall employment outside small-scale agriculture.	(ILO 2015)
Lebanon	SMEs accounted for 90% of all enterprises were SMEs, and more than 50% of the total workforce	(ILO 2015)
Malaysia	SMEs in 2011 contributed about 32.5% to nation's GDP	(Ghazilla et al. 2015)
Mexico	99.8% of enterprises were SMEs, accounted for 52% of GDP and 70% of employment nationally	(ILO 2015)
Morocco	SMEs represented 95% of all enterprises and 50% of employment.	(ILO 2015)
New Zealand	SMEs accounted for 99% of all firms were SMEs	(Lewis and Cassells 2010)
Norway	99% of companies were SMEs.	(ILO 2015)
Philippine	SMEs accounted for 99.6% of all enterprises and 55% of the jobs generated and 25% of the value added	(Rao 2007), (ILO 2015)
Russian	SMEs represented 25% of the national total and every fourth worker works in an SME	(ILO 2015)
Senegal	SMEs contributed to around one-third of GDP and national revenue, employed 60% of the active population	(ILO 2015)
South Africa	SMEs accounted for about 91% of formal business entities, contributing to about 57% of GDP and providing almost 60% of employment	(Abor and Quartey 2010)
Switzerland	99.6% of Swiss enterprises employed fewer than 250 workers and represented two-thirds of the jobs in the country.	(ILO 2015)
Taiwan	SMEs represented more than 96% of industrial establishment	(Studer et al. 2006)
Turkey	99.9% of all enterprises were SMEs and represented 76% of employment	(ILO 2015)
United Kingdom	SMEs accounted for 95% of services and industries sub-sectors	(UK Bureau Of Statistics 2014)
Zimbabwe	5.9 million SMEs in various economic sectors employed workers of all working ages	(ILO 2015)

Source: Author's own

The informal SMEs form a significant percentage of the SMEs sector, and make a substantial contribution to employment and poverty reduction in developing countries (Ishengoma and Kappel 2006; Sodhi and Tang 2014). For instance, in Peru, the informal SMEs are responsible for providing 95 percent of the transportation of Lima, building 90 percent of the housing; producing 80 percent of the clothing and 60 percent of the furniture, without government registration, access to credit or protection from the legal system (Kraemer 2001).

In Zambia, the contribution of SMEs to the national development and economic growth has been difficult to ascertain. This is because of limited documented information regarding the business activities of the SMEs sector. As a result, it is difficult to estimate the size of the private sector in Zambia as the national data does not disaggregate national output with enterprise size (Ministry of Commerce Trade & Industry 2009). However, it is estimated that mining companies procure goods and services, wealth US Dollar 3 billion from local suppliers (International Council on Mining and Metals 2014), and these include such goods and services as mining development services, safety wear equipment, machinery, spare parts, plant and engineering maintenance services and other non-core supporting inputs such as security, cleaning services, catering and transport (Kasanga 2012).

This study focuses on the mining SC because the mining industry has been the dominant player in Zambia's economic development, impacts the social and environmental and is linked to a majority of SMEs as suppliers of goods and services, being investigated in this study. The study also focuses on sustainable supply chain (SSC) management because firms must partner with members throughout their SCs to improve energy efficiency while reducing natural resource usage, waste and adverse environmental impacts, which together lead to a high-performance outcomes along the three dimensions of the triple bottom line (Pagell and Wu 2009; Zailani et al. 2012), and it has been acknowledged that a firm can only be as sustainable as its SCs (Krause et al. 2009; Wilhelm et al. 2016a). In addition, all SMEs registered with the large mining firms are also registered with the revenue authority qualifying them to be classified as formal

SMEs. These SMEs are further linked to other sectors such as manufacturing, agricultural and the informal SMEs. Furthermore, the mining industry has been chosen to collect reliable and verifiable data on the SMEs. See Figure 2.5 for details on the area of focus.

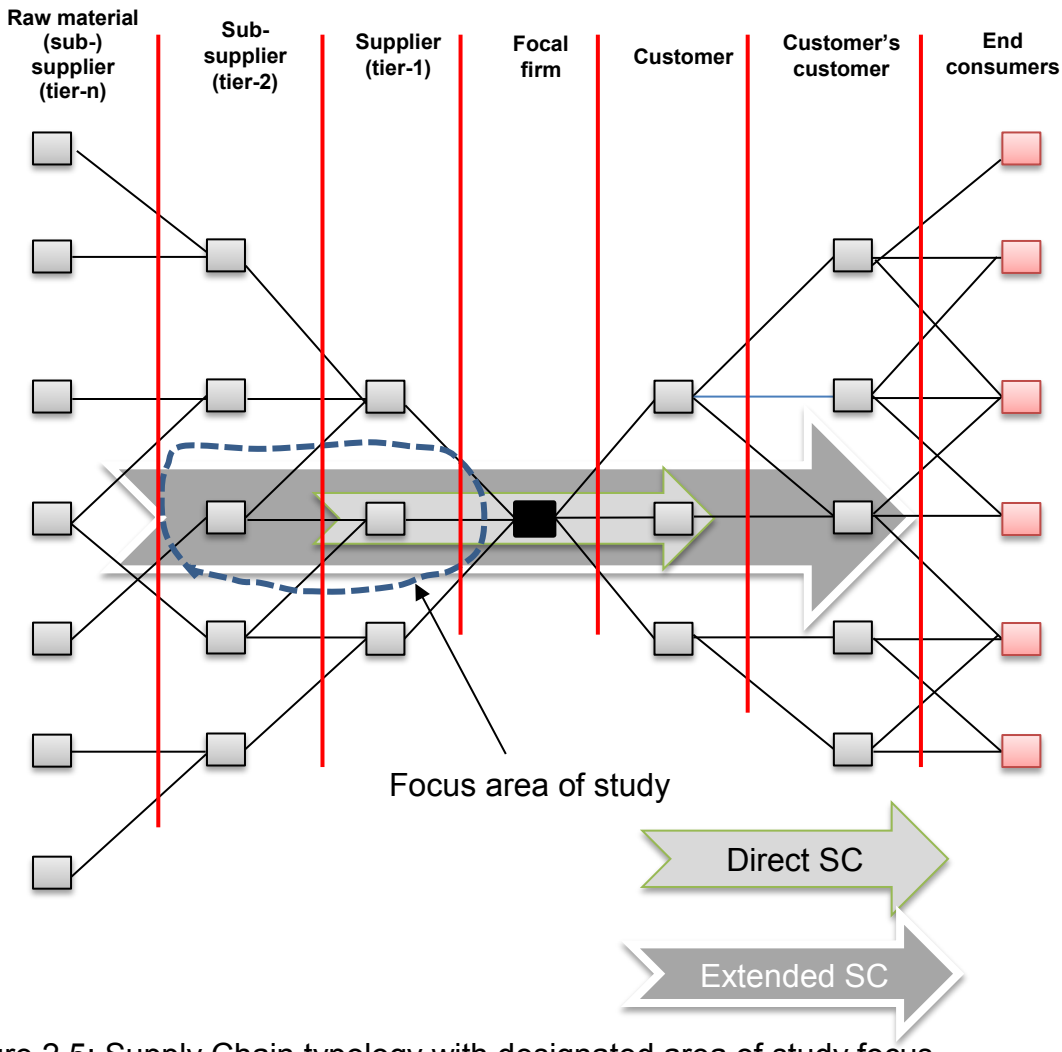


Figure 2.5: Supply Chain typology with designated area of study focus

Source: Adapted from Essig et al. (2013)

Essig et al. (2013) have distinguished between (1) the direct SC, (2) the extended SC, and (3) the ultimate SC, as illustrated in Figure 2.5. The direct SC centres on the focal firm and additionally considers the direct supplier and direct customer, which inter-relate through product, services, information, and financial flows. The extended SC takes a broad perspective of the direct SC by additionally considering the next tier-levels, that is, the supplier's supplier and the customer's

customer. Overall, the ultimate SC takes into consideration all parties involved from the raw material down to the end consumer. Consequently, the actual SCs do not necessarily describe a single, linear chain, but rather are reflected by entire supply networks in which various linkages between SC members exist (Essig et al. 2013; Grimm 2013).

Figure 2.5 also indicates how SC partners can be distinguished depending on their level within the (external) SC. The direct SME suppliers of a focal firm are commonly considered as first-tier or tier-1 suppliers to whom the focal firm maintains direct contractual relationships. The second-tier or tier-2 level includes the suppliers of the suppliers − all the way up to the raw material suppliers. These indirect suppliers (tier-2 to tier-n), which do not have any contractual relationships with the focal firm, are referred to as sub-suppliers in the present research, and necessarily in the mining SC, sub-suppliers comprise of formal and informal enterprises.

This study concerns, sustainability practices in SME suppliers (i.e. the implementation of, and compliance with, sustainability standards) throughout the focal firm's ultimate upstream SC including all direct suppliers and indirect sub-suppliers. However, due to reasons of complexity, the subsequent exploratory studies can only partially achieve this objective and are somewhat restricted to research settings, which only cover extended upstream SCs of tier-1 and tier-2 suppliers as shown in Figure 2.5 (focus area of study). Nonetheless, SMEs often have favourable characteristics that may foster the rate of engagement in sustainability. They are flexible, adaptable, creative, and innovative, communication is easier, improvements can easily be noticed and less hierarchical. Thus, the owner/managers can more easily champion sustainability programmes and facilitate employees' commitment (Talbot et al. 2007; Jenkins 2009; Meqdadi et al. 2012; Petrini et al. 2018). The study does not consider the downstream SC of the copper mining because the majority of copper customers are not locally stationed. As such, due to time and cost constraints, it may not be possible to investigate their influence at present. However, it can be considered in the future studies. The few local customers are too insignificant to have any influence on the sustainability practices.

Although the extraction and production of copper involve several independent processes, some of which are located locally and others located in the consuming countries, Asia and Europe. These processes include; exploration, mine construction, ore extraction, refining, processing, production of final goods and scrap recycling, see Figure 2.6 and 2.7. However, the scope of this research is limited to the local copper value chain.

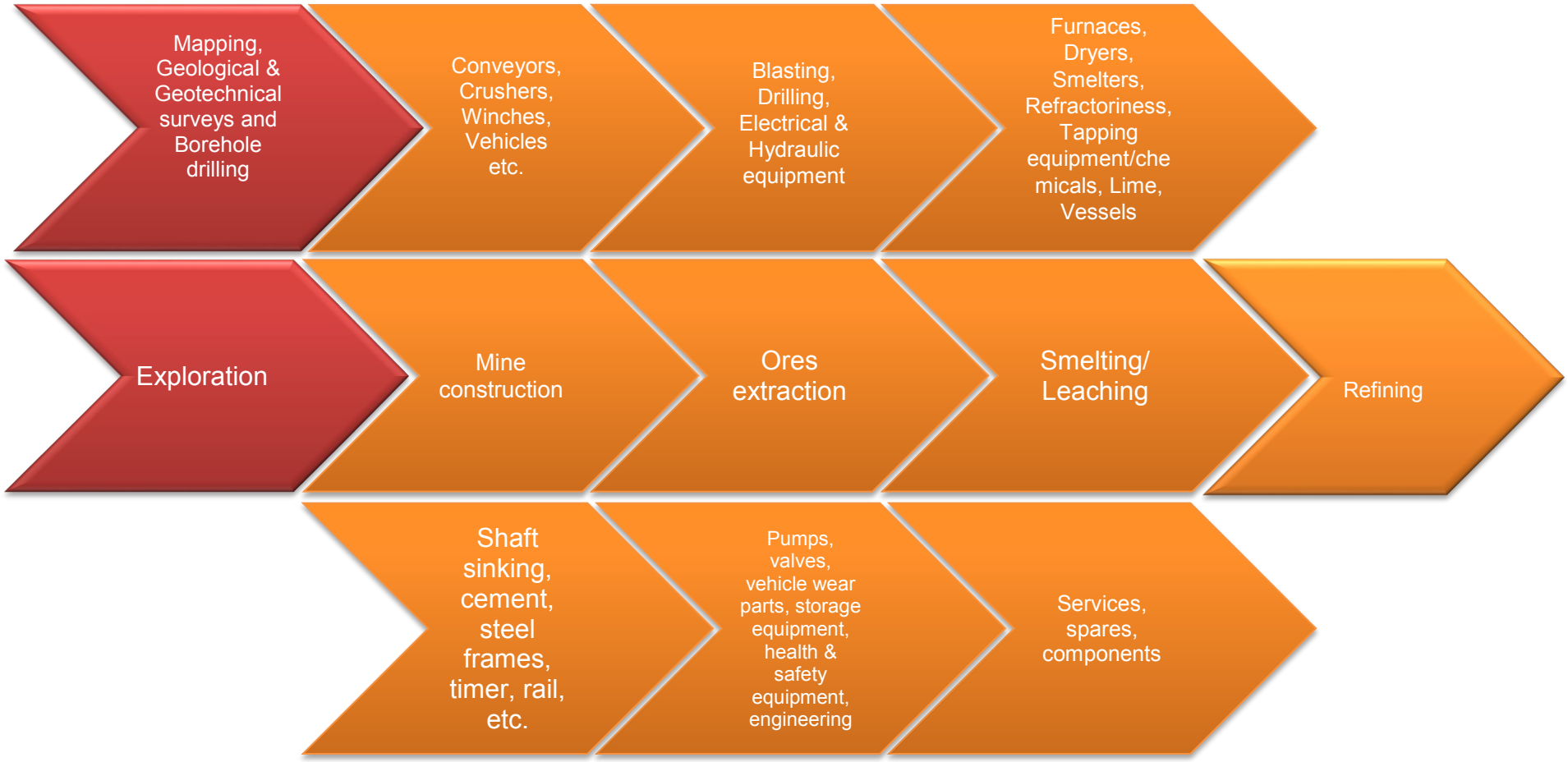


Figure 2.6: Local Copper Value Chain

Adapted from: Hampwaye et al. (2014)

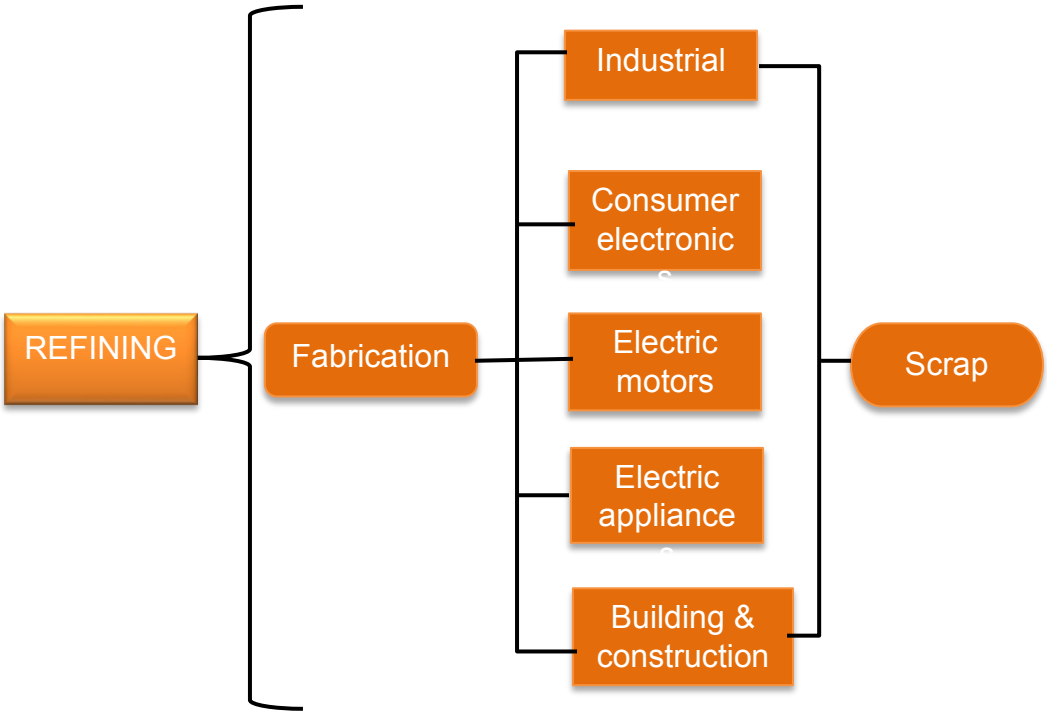


Figure 2.7: The Copper Value Chain outside Zambia

Adapted from: Hampwaye et al. (2014)

Each of these processes makes use of a variety of SME suppliers, most of which are extraordinarily capital and skills intensive and demands an economy of scales to be profitable. Therefore, to adequately support the industry, a variety of SMEs are required, see Figure 2.8 showing the different categories of SMEs supporting the mining industry.

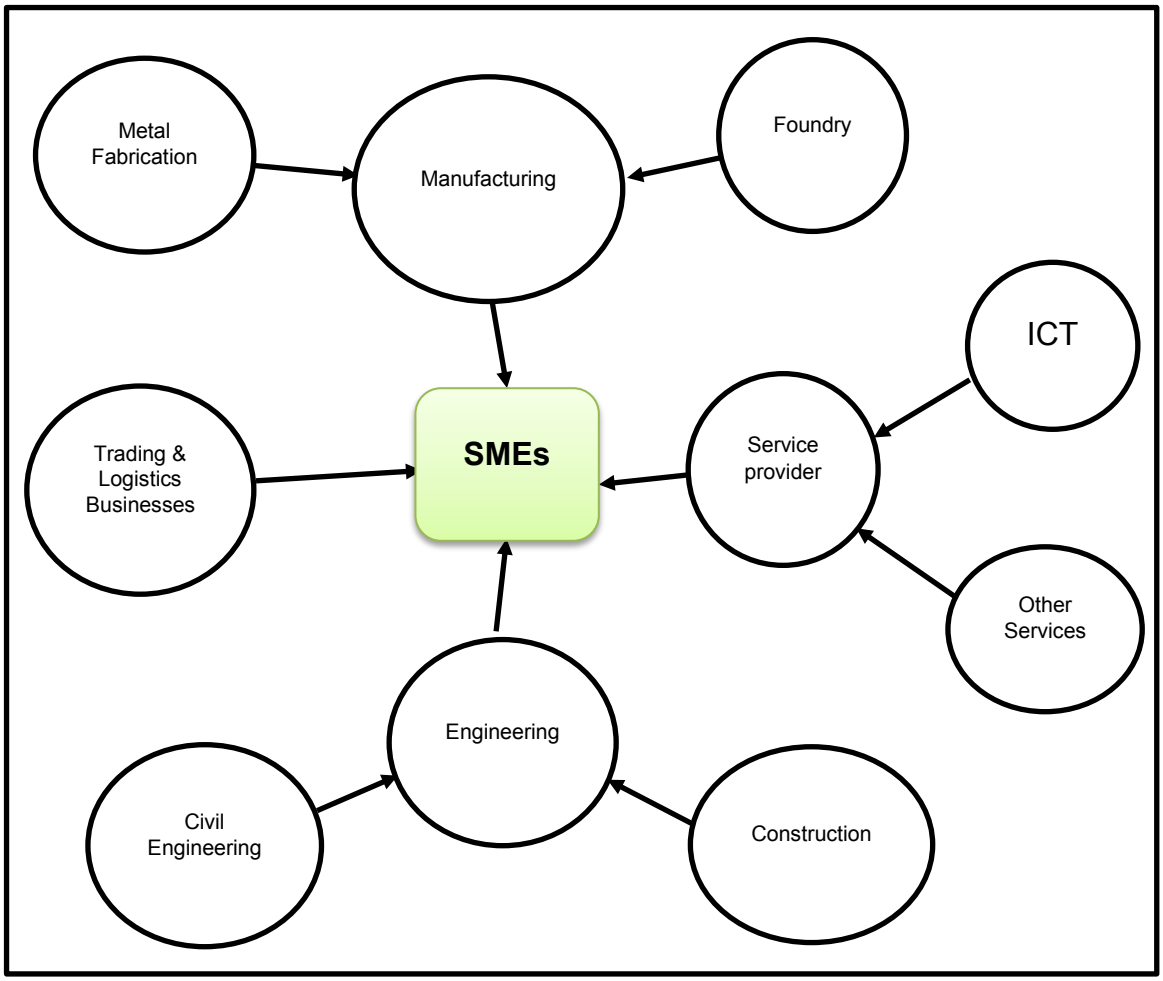


Figure 2.8: Categories of SMEs suppliers in the mining SC

Source: Author's own

The small firms, in addition to the vital role they play in the value addition of copper, they also impact the environment negatively. As indicated above, SMEs significantly impact environment, and should not be underscored (Aghelie 2017). Their large number and dominant economic activities mean that they are also major contributors to environmental degradation (Martín-Tapia et al. 2010). According to Laurinkevičiūtė and Stasiškienė (2011), SMEs waste generation and energy consumption levels have a significant impact on the environment. Marie (2012) report that SMEs are estimated to account for 80% of industry's destructive environmental impacts and approximately 60% of commercial waste. They rely on the use of basic tools such as picks and shovels and the current environmental regulations in Zambia only compel the large firms to submit environmental assessment reports before granting the firm a mining license

(Kambani 2003). Hence the SMEs lag behind in the implementation of sustainability practices.

In Zambia, as discussed above, the informal sector dominate economic activities, such as manufacturing where they maintains beneficial business links (social capital) with the formal sector (Finnegan and Singh 2004). Therefore, given the high number of informal SMEs in Zambia's economic structure and that SMEs comprise the majority of the business population in many countries, the potential impact from lack of engagement in sustainability practices is worrisome.

Although, studies in Zambia on SMEs have mainly focused on SMEs growth, recently, there has been attempts to explore the field of sustainability or corporate social responsibility (CSR) as it was formed termed by scholars. Particularly, Choongo et al. (2017), explored the motivations of different forms of CSR in Zambian SMEs and Choongo et al. (2016), investigated the factors influencing the identification of sustainable opportunities by SMEs. However, sustainability practices by SMEs remains unexplored area in this region of the world. Consequently, this study aims to examine the sector to understand SMEs' potential specificities and contributions in relation to sustainability practices in the mining SC as influenced by stakeholders.

2.6 Millennium Development Goals (MDG) Zambia

According to the UN Zambia report for 2010, Zambia was considered to have made notable progress towards the implementation of Sustainable Development SD) by the establishment of institutional frameworks to facilitate implementation of SD, the integration of some aspects of SD into national poverty strategic plans and diversification of the economy away from copper and promotion of sustainable land management (United Nations 2012). However, Zambia does not have a framework that can facilitate the integration of the green economy (Obby 2014).

Consequently, although the country is endowed with natural resources, the outlook for MDG 7 (Environmental Sustainability) is worrying due to the

degradation of land, forests, water and wildlife. As a result, the country is losing the previous gains made on environmental sustainability land covered by forest due to exploitation through logging for wood fuel and encroachment for agriculture and settlements. Deforestation and unsafe land use and industrialization driven by mining sector have also been reported to be the largest contributor to carbon dioxide emissions. Therefore, successful adoption and implementation of sustainable development amongst the SMEs would significantly assist in getting the country back on track towards the achievement of MDG 7, since the status of the environmental sustainability has a significant bearing on whether or not a country will reach many of its other MDGs as it provides the foundation for a greener, cleaner growth path (United Nations 2013).

2.7 Challenges to Sustainability Practices by SMEs

The salient feature of SMEs in developing countries is that most of them are forced to be entrepreneurs for their survival rather than being classic entrepreneurs driven by challenge, inheritance and independence. They are generally from the lower income social group, have little education and are likely to be driven by economic motives as they struggle to survive for existence (Azmat and Samaratunge 2009).

According to Arinaitwe (2006), the contributions of SMEs have always fallen short of expectations despite the recognition given to them as a source of economic growth and development in developing countries. This is because SMEs in developing countries still face numerous challenges. These include lack of technological advancements, inability to obtain financing, unskilled and uneducated workforces, lack of infrastructure, volatility of prices and small market.

Sustainability has mostly been associated with large firms (Aghelie 2017). SMEs are only considered as suppliers to large companies and not as buyers from upstream, hence, they fail to build a long-term relationships with large companies and have a short-term relationship resulting from specific contingencies (for example, problem with product quality) rather than from the company strategy

(Ciliberti et al. 2008). In many developing countries, Zambia included, the SC relationship between SMEs and the buyers (multi-national corporations) is a quasi-hierarchical relationship[2]. Furthermore, SMEs lack mentorship and skills transfer, lack of awareness of development opportunities and support network, infrastructure scarcity, finance, and low environmental visibility and exposure to regulatory and stakeholder pressures (Hamann et al. 2005; De Gobbi 2011).

The infrastructure to support sustainability implementation is a costly and sustainability agenda is a long-term endeavour. Consequently, sustainability has been considered a thankless task that increases the overall product cost (Hsu and Hu 2008). Private businesses have an obligation of increasing the wealth of their shareholders, which applies commercial pressure. Since the firms cannot pass the cost of SSCM to the consumer, the organization embarking on sustainability implementation must be profitable. However, in the copper mining the prices are determined without input from the producers, therefore, operational costs are not considered. Furthermore, the DA allows the mining firms to strategize on maximizing their ROI by reducing costs by scaling down on employment and social provisions. For example, when the copper prices decline, the mine owners are at liberty to lay-off workers without much resistance from the government. Recently, several mining companies announced plans to lay off workers and suspended contract labour and recruitment due to electricity shortages and fall in copper prices that have impacted negatively on the production levels and cost (Mtambo 2015; Zambia National Broadcasting Corporation 2015). Such measures do not end at laying-off workers only, the secondary economic activities related to copper also suffered, such as the suppliers, by reducing the scope of work done by mining contractors, renegotiating supply contracts in order to reduce supplier prices, and deferment of payments to suppliers and contractors (ILO 2012).

[2] Quasi-hierarchical relationship occurs when one party to the transaction (usually the buyer) exercises a high degree of control over the other, such as specifying the design (or the general specification) of what is to be produced and also process parameters such as quality systems, materials, among many others.

The economic downturns in many developing countries have thrown people into informal employment, as a survival option. While economic upturns fail to absorb them back into formal employment due to the reduced absorption capacity of the industrial sector (La Hovary 2013). Another factor contributing to informal sector is economic restructuring, including privatization of state enterprises and public service *(Ibid).* For example, in Zambia, the privatization of state-owned mines threw many miners, who found themselves in the informal sector as a means of survival. According to Eijdenberg and Masurel (2013), people from the developing countries are driven by poverty and survival, and lack of choice in work to start business ventures. As such, these informal enterprises face several constraints, and it is hard for them to operate on a "level playing field" with large enterprises. For example, they suffer more from cumbersome bureaucratic procedures for setting up, operating and growing a business. As a result, they are not able to perform the economic, social and environmental functions like their large counterparts (de Kok et al. 2013).

Resulting from the above challenges and extant literature, Zambia's SMEs sustainability engagement profile can be depicted as shown in Figure 2.9.

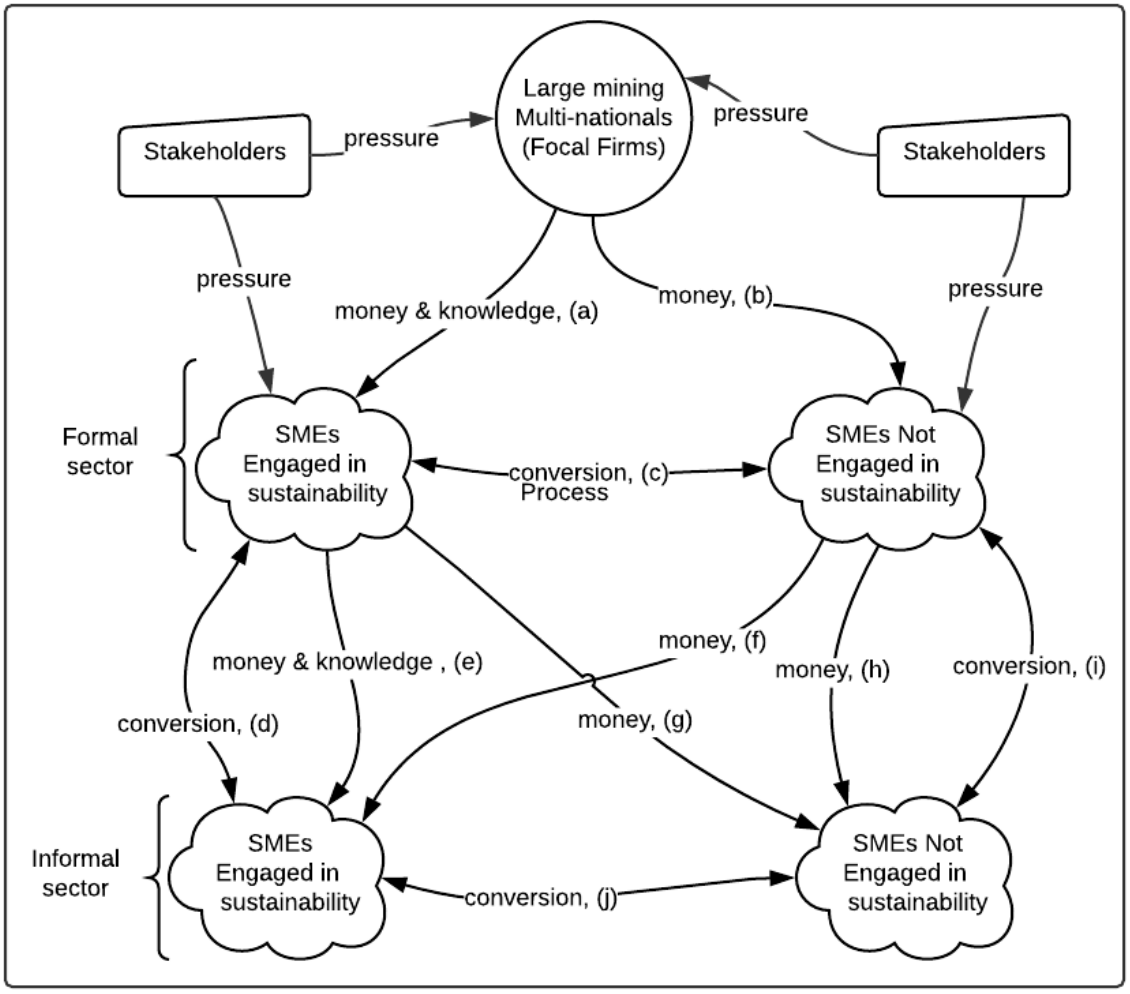


Figure 2.9: Zambia's SMEs sustainability engagement profile

Source: Author's own work

From Figure 2.9, the following can be deduced.

a) There is a flow of money and knowledge between large firms and SMEs engaged in sustainability practices from the large firms to the SMEs. Equally, there will be a flow of money and knowledge between formal and informal SMEs engaged in sustainability practices from formal SMEs to the informal SMEs **(e)** & **(g).**

b) There is **only** a flow of money from large firms to SMEs not engaged in sustainability practices. Equally, there will **only** be a flow of money between formal and informal SMEs not engaged in sustainable practices from formal SMEs to the informal SMEs **(h)** & **(f).** That is a cash transaction only.

c) If by engaging in sustainability practices the cost of work from engaged SMEs in sustainability practices goes up, large firms could make a strategic choice to keep working with them because of credentials, such as being seen as a good citizen. As a result, there could be a conversion with more SMEs engaging in sustainability practices, because by doing so, chances are that they may get more orders and get paid more. However, large firms can make a value-based choice and work with SMEs not engaged in sustainability practices, especially if no one is enforcing or monitoring their business operations and think they can get away with it. This could result in the engaged SMEs abandoning the sustainability practices. Depending on the business decision of the large firms and other incentives, there will be a conversion with informal SMEs formalizing their businesses or vice versa **(d)** & **(i).**

j) If the large firms choose to continue conducting business with SMEs engaged in sustainable practices only, then formal and informal SMEs not engaged in sustainable practices could be enticed to implement sustainability. However, if the large firms decide to make a value based choice and conduct business with SMEs not engaged in sustainability practices, the formal and informal SMEs could abandon sustainability practices.

The actions and decisions of the actors in Figure 2.9 are influenced by the pressure from the stakeholders, for details see Figure 2.10. This may be the case, especially for horizontal conversion in which there is no financial gain, e.g. **(c)**. As such, there is need to carry out an empirical exploratory study with various stakeholders for an in-depth understanding “from the inside” how entrepreneurs and business minded managers (purchasing managers) and stakeholders perceive sustainability initiatives by SMEs, their interest and influence on the SMEs’ behaviour towards sustainability practices. This will be pursued using qualitative semi-structured interviews as suggested by Meqdadi et al. (2012) and Demuijnck and Ngnodjom (2013). Since most SME owner/managers may not be

familiar with sustainability vocabulary; semi-structured interviews may enable the researcher to explain questions that use this vocabulary so that it makes sense to the respondents *(Ibid).*

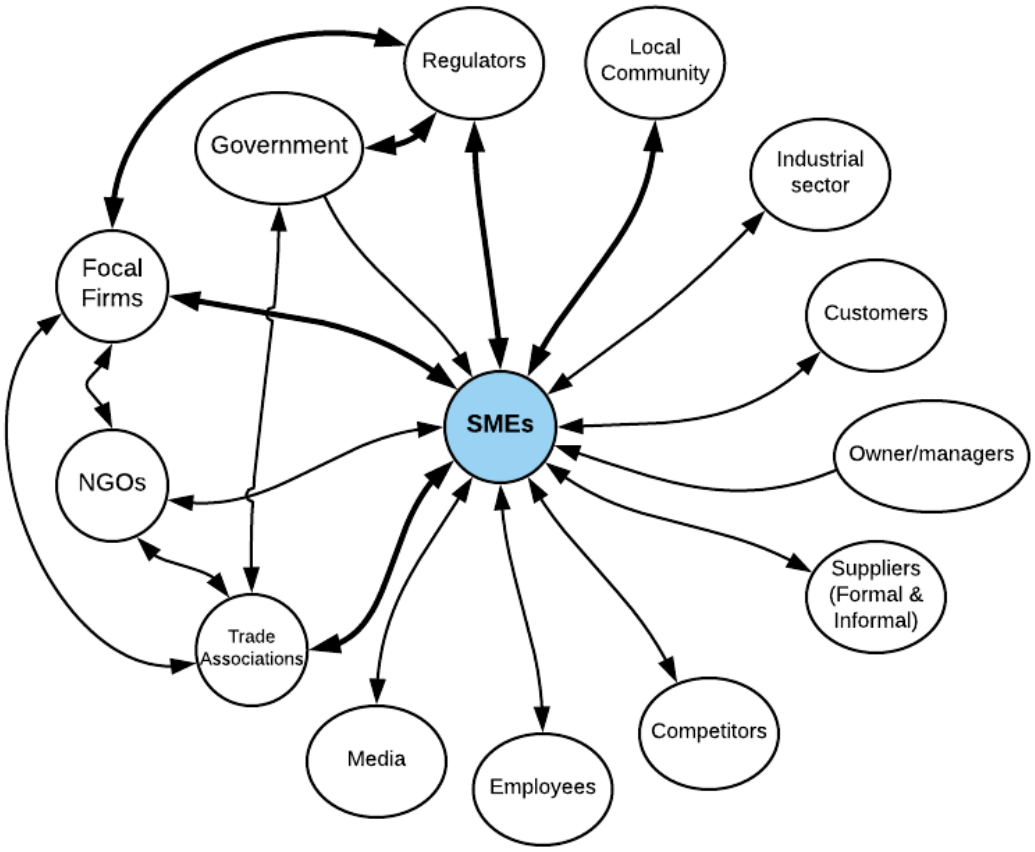


Figure 2.10: Stakeholder network mapping (Zambian copper mining SC)

Source: Author's own work

2.8 Summary

This chapter has presented the history of the mining industry in Zambia and its contribution to the Zambian economy and SMEs sector. The chapter began by discussing the mining industry from its inception to its present state and outlined its significance to the economic development of Zambia after attainment of independence in 1964. It then presented the impact of the mining industry on sustainability and how it's supported by the SMEs sector as supplier of goods and services. The chapter also highlighted the role of the SMEs sector in Zambia. But due to a limited research on the SMEs sector in Zambia, the discussion took

general approach by discussing the SMEs sector in developing countries. The chapter concluded by presenting the challenges of SMEs sector engaging in sustainability practices.

Therefore, this chapter has contributed to the study by demonstrating the role of multinational mining corporations to the SMEs sector, thereby presenting the members of the local mining supply chain. The next chapter, Chapter three (3), presents the literature review by focusing on SSCM and SMEs' sustainability practices leading to the identification of the research gap and the development of the conceptual framework to be adopted in this study.

3.0 LITERATURE REVIEW

3.1 Introduction

The literature review in this chapter centres on three themes, as shown in Figure 3.1. Theory of SCM, as the broad area of interest, is reviewed first, as an extension of the SC. This is followed by a discussion on sustainability and sustainable supply chain management in order to show their linkage. The chapter then reviews the key debates on sustainability initiatives, SMEs' sustainability practices and the transfer strategies before discussing the debates on the barriers and drivers to SMEs to engage in sustainability. This is followed by the review of stakeholder theory in relation to the stakeholder management and stakeholder influence on sustainability. The discussion then shifts to the frameworks before outlining the research gap and the development of a conceptual framework.

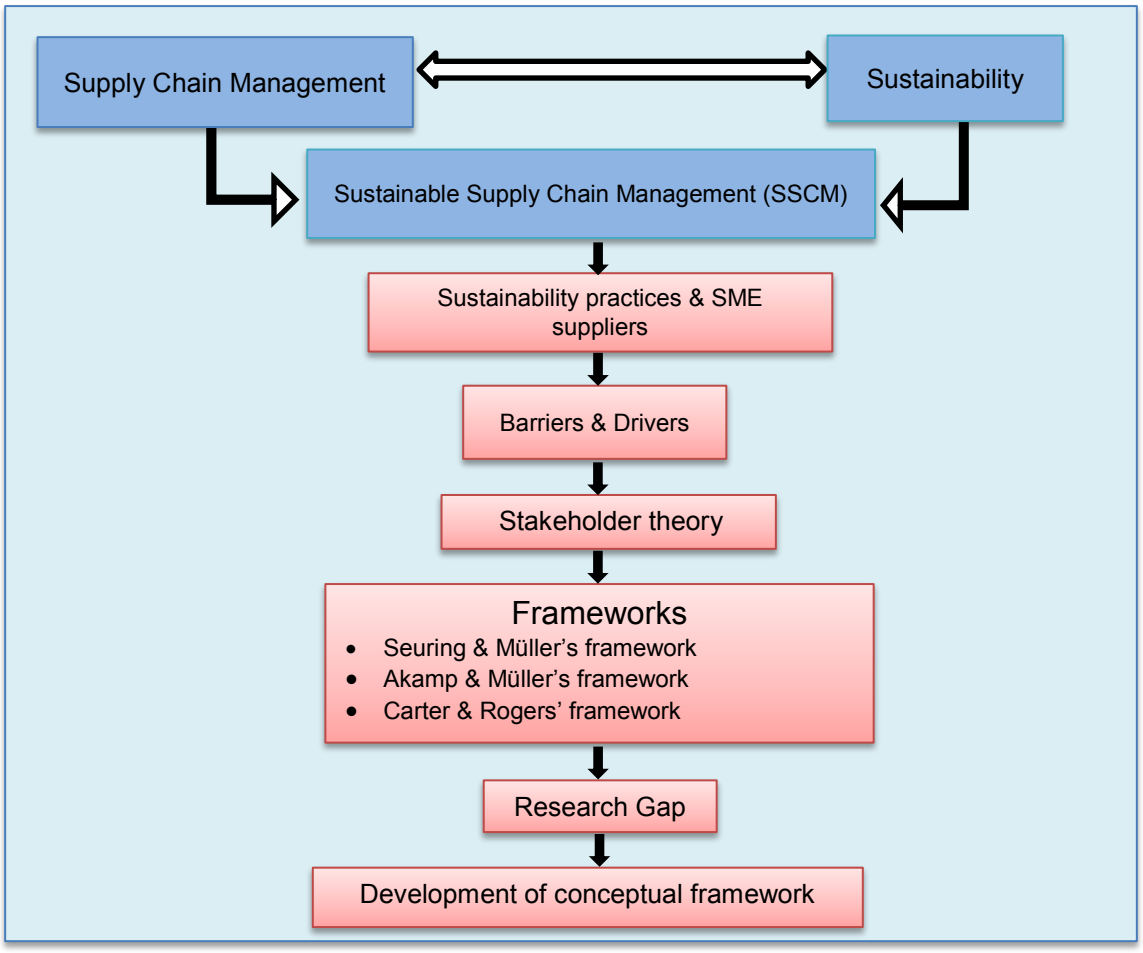


Figure 3.1: Diagrammatic presentation of chapter outline

Source: Author's own

3.2 Supply Chain Management Concept

SCM can be defined as a set of interdependent organizations that act together to control, manage and improve the flow of materials, products, services and information, from the point of origin to the delivery point (the end customer) in order to satisfy the customer needs, at the lowest possible cost to all members (Lambert et al. 1998). According to Mentzer et al. (2001: 18), SCM is “the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the SC, for the purposes of improving the long-term performance of the individual companies and the SC as a whole”. Lambert (2008: 2), defines SCM as “the integration of key business processes from end-user through original suppliers that provides products, services, and information that add value for customers and other stakeholders”. However, Harland (1996) had earlier regarded SCM as the management of the firm-internal SC, a dyadic relationship between two firms, the firm-external SC from source to customer, or the management of a network of interconnected businesses.

It can be inferred from these definitions that SC is a set of companies in a network and the main purpose of SCM is the economic performance by managing the flow of materials, products, services and information from their point of origin to the end-user in order to maximize customer satisfaction and profit for the companies. Thus, the main focus of SCM is to provide the right product to the right customers at the right cost, right time, right quality, right form and the right quantity (Basher 2010). According to Tan (2002), the short-term strategic goal of SCM is to reduce cycle time and inventory, thereby increasing productivity, whereas the long-term goal is to boost profits through market share and customer satisfaction. In addition, Chen et al. (2004), suggest that the performance of one company is dependent on how effectively and efficiently it cooperates with its direct SC partners and on how well these business partners cooperate with their own SC partners.

However, as the SCM practices become mature, and in response to stakeholder concern, companies and their SC partners are collaborating to reduce environmental problems in order to reduce waste, energy and pollution, minimize

environmental risks and improve community goodwill. The companies do this by considering the social and environmental performances and not just the traditional economic performance. Hence, it can be conjectured that in order for a company to be sustainable, all the SC members must act in a sustainable manner since addressing sustainability challenges necessitate the integration of both environmental and SCM (Touboulic et al. 2014). Consequently, Meixell and Luoma (2015), posit that SCM is in the frontline of sustainability in business as it provides a valuable opportunity for the firm to incorporate the objectives of triple bottom line (TBL) performance into its decision-making processes. Sustainability which comprises of three dimensions of social, environment and the economy is considered in the next section.

3.3 Sustainability

In the last two decades, firms have been heeding stakeholder demands regarding corporate citizenship behaviour and performance. Academia and practitioners have also added to the debate on raising awareness of environmental protection and social well-being (Sarkis 2001; Hassini et al. 2012; Morana 2013). Several other factors lead firms to pursue SSC practices: pressure from stakeholders– customers, shareholders, boards, employees, governments, and NGOs (Zhu et al. 2008); environmental standards (Rondinelli and Berry 2000); effects of environmental performance, and firms' reputations (Christmann 2000); cost reduction (De Brito et al. 2008) and competitors (Walker et al. 2008). However, in spite of all these efforts, it is not yet understood if sustainability has been holistically integrated into SCM (van der Laan and De Brito 2010), especially among the small-scale enterprises. There is too much focus on individual sustainability and SC dimensions rather than an integrated approach (Winter and Knemeyer 2013). In addition, stakeholders have directed their efforts towards the large corporations to adopt sustainability practices and little attention given to the small-scale enterprises (Johannsdottir 2015). Consequently, Ahi and Searcy (2013), have proposed that integration of sustainability into SCM begins by focusing on merging "green" considerations with SCM practices

The broadly adopted definition of sustainability is by Brundtland Commission (World Commission on Environment and Development, 1987, p. 8): “development that meets the needs of the present without compromising the ability of future generations to meet their needs” (Brundtland 1987). This implies that future generations have rights over resources and the current generation has a duty to consider the needs of the future generations’ in its decision-making. Unfortunately, the Brundtland Commission’s definition is difficult for companies to apply and provides little guidance for organizations (Gimenez and Tachizawa 2012). This is because organizations have challenges determining their individual roles within this broader, macro-economic perspective (Shrivastava 1995; Carter and Rogers 2008; Grimm 2013). Researches on wider micro-economic applications of sustainability in the field of management, operations and engineering have brought forward many conceptualizations of sustainability, focusing mostly on the ecological perspective.

In the operations and SCM literature, most of the conceptualizations of sustainability are concentrated on the natural environment perspective (Hart 1995; Rao 2002; Zhu and Sarkis 2004; Zhu et al. 2005; Holt and Ghobadian 2009). In addition, the issues of environmental and economic responsibilities have been included in the literature since the 1990s. According to Shrivastava (1995), sustainability has the potential for reducing long-term risks associated with resource depletion, fluctuations in energy costs, product liabilities, and pollution and waste management. However, this definition considers the environmental and financial perspectives of sustainability, but excludes the social dimension. Sarkis (2001), viewed sustainability from an operations management perspective, by focusing only on ecological dimension.

However, organizational definitions of sustainability in the engineering literature have been more encompassing, and have explicitly incorporated the social, environmental, and economic dimensions of the macro-viewpoint by defining organizational sustainability as, “a wise balance between economic development, environmental stewardship, and social equity,” (Sikdar 2003: 1928).

Although there have been different interpretations of sustainability, it is widely acknowledged that sustainability comprises three distinct but often inter-related dimensions: an economic, a social, and an environmental dimension. Elkington (1997), framed these three dimensions as the triple bottom line, in which sustainability is usually operationalised. See Figure 3.2 for details. Hart and Milstein (2003: 56), also argue that a firm only operates in a sustainable manner, if it "contributes to sustainable development by delivering simultaneously economic, social, and environmental benefits".

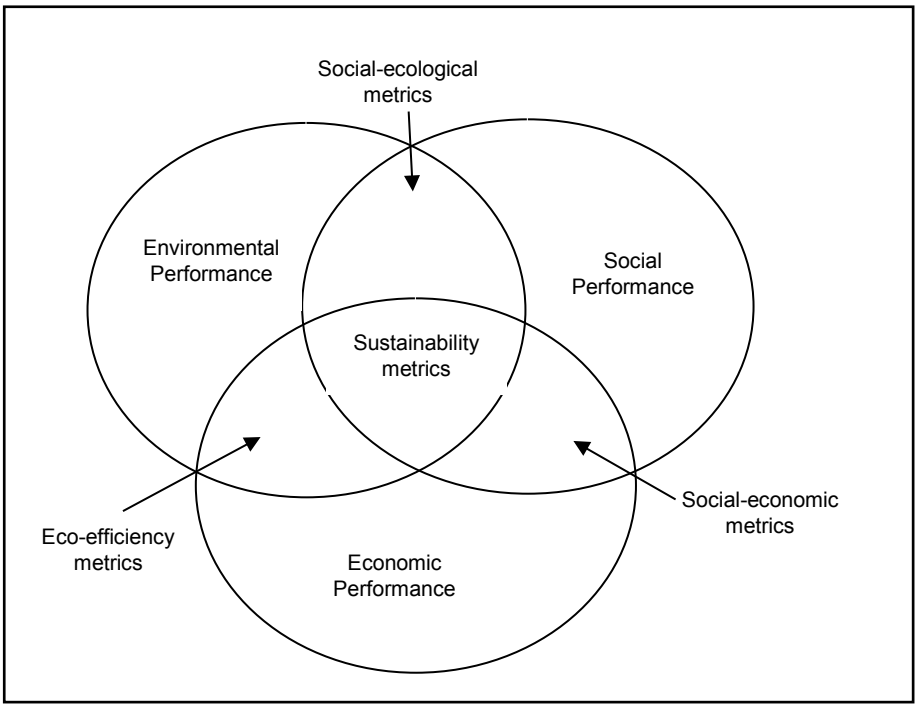


Figure 3.2: Triple Bottom Line (TBL)

Adapted from: Carter and Rogers (2008) & Sikdar (2003)

- Economic Perspective-this component of sustainable development focuses on the financial affordability for intended beneficiaries and is the most important goal of the firm. Failure to achieving it can result in a firm being declared insolvency (Muduli and Barve 2011; Sourani and Sohail 2011).
- Social Perspective-this component focuses on the social needs of the employees such as healthcare, employee benefits, and education and many others. In order for a firm to be successful, it has to pay attention to

the needs of the employees (Muduli and Barve 2011). According to Maslow's hierarchy of needs, the higher-level needs remain latent until the lower level needs are satisfied. Thus, when the needs of the employees are not considered the productivity of their work decreases (Maslow et al. 1970; Clift 2004; Hussain 2011).

- Environmental Perspective-this component focuses on issues such as reducing energy and water consumption, using renewable resources and minimizing pollution. For a long time, humans had only paid attention to satisfying their needs and demands. In doing so, they depleted resources and caused damage to nature. This is being experienced in the present era through global warming, depletion of green lands and degradation of the ozone layer to name a few (Hussain 2011; Muduli and Barve 2011).

TBL demonstrates that achieving either one or two of the three components will not help in achieving the overall goal of sustainability, but only the integration of all the three components will make the process sustainable (Carter and Rogers 2008). To be considered sustainable in SC context, firms must perform well in all three dimensions of TBL (Elkington 1997; Klassen and Vereecke 2012; Wilhelm et al. 2016b).Thus, sustainability lies in the intersection of all three dimensions. This is consistent with the Sustainable Development Goals (SDG), which is aimed at balancing the three dimensions of sustainable development: environmental, social and economic (UNDP 2015).

Although an exclusive focus on economic aspects might be beneficial in the short term, it is widely acknowledged that neglecting social and/or environmental aspects does not lead to sustainable development in the long term (Shrivastava and Hart 1995; Dyllick and Hockerts 2002). However, organizations tend to either focus on a single dimension of sustainability or take all these dimensions holistically into account (Kudla and Stölzle 2011).

Therefore, to achieve sustainability across the SC, the sustainability practices need to be integrated with SC activities to obtain what is referred to as sustainable supply chain management, which combines the concepts of SCM and sustainability (Turker and Altuntas 2014). This is discussed in the next section.

3.4 Sustainable Supply Chain Management

SSCM has been defined by various researchers from different perspectives. For example, Hassini et al. (2012: 70) defined SSCM "as the management of SC operations, resources, information, and funds in order to maximize the SC profitability while at the same time minimizing the environmental impacts and maximizing the social well-being". According to Carter and Rogers (2008: 368), SSCM is defined as "the strategic, transparent integration and achievement of an organization's social, environmental and economic goals in the systemic coordination of key inter-organizational business processes for improving the long-term economic performance of the individual company and its supply chains. Carter and Roger's definition builds upon the triple-bottom-line view of sustainability (Elkington 1997), and will be adopted in this study. Thus, SSCM extends the basic concept of SCM by broadening performance to consider all the three sustainability dimensions identified by the TBL approach (Sourani and Sohail 2011; Meixell and Luoma 2015).

Some of the industrial environmental philosophies and practices that support SSCM philosophy are environmental management systems (EMS), life cycle analysis (LCA), industrial ecology and symbiosis, product stewardship and extended producer responsibility, and design for environment (DfE) (Seuring 2004; Sarkis 2012). Furthermore, in a number of journals featuring special issues on SSCM topics, several authors have defined SSCM as a green supply chain (GSC) (Diabat and Govindan 2011; Sarkis et al. 2011; Guang Shi et al. 2012; Luthra et al. 2014). SCM and GSC concepts are mutually reinforcing each other. Moreover, some researchers use them interchangeably. However, in general, SSC focus on a profit as a first priority with respect to other two dimensions: social and environmental, while the GSC focuses on integrating environmental thinking into SCM (Chin et al. 2015).

These sections above have debated on the sustainability concept and delineated the linkage between SC, SCM, sustainability and SSCM. The next section focuses on the sustainability practices and sustainability transfer strategies/approaches between SC members. It is imperative that sustainability

practices in SMEs are considered in order to expose the complexities and dynamics as influenced by the stakeholders.

3.5 Sustainability Practices and SME Suppliers

An organization can do everything possible to improve its environmental and social performance within its operations, but its absolute measure of sustainable performance depends upon the actions of SME suppliers, distributors and all other members of their value chains (i.e. supply chains) (Network for Business Sustainability 2013: 11). The literature as well as the business practice also acknowledges the need for firms to expand their sustainability efforts to their entire SCs (Wilhelm et al. 2016b). Furthermore, SC decisions and activities have a profound impact on sustainability, such as through choosing a particular type of material, packaging design, transportation modes and supplier selection and development (Crum et al. 2011). Therefore, to be successful, initiatives for sustainability improvement need synergy and cooperation with SME suppliers (Darnall et al. 2008).

SMEs play an important economic role in many world economies and are critical for enhancing or deteriorating sustainability in supply networks (Meqdadi et al. 2012). Accordingly, large organizations and governments direct their attention towards increasing small firms' engagement in sustainability initiatives (Jenkins 2009). However, the motivation of SMEs' engagement in sustainability as well as their barriers for not engaging often differ from those of larger firms (Meqdadi et al. 2012). The business case is not the same as for large firms; as such SMEs may need a particular attention when it comes to business strategies for sustainability initiatives. In addition, the tools that are developed to support sustainability in SMEs need to recognize that these companies have different resources and profiles than larger firms (Stubblefield Loucks et al. 2010).

In a study conducted in Tunisia, Spence et al. (2009) reports that, while there may be more or less difficulties in involving SMEs because of their size, their engagement in sustainable development nonetheless ought to be considered as obligatory to ensure the continuation of a worldwide sustainability. Therefore, to

increase SMEs engagement in sustainability, SMEs networks have been identified as a key process avenue through which enterprises and the network evolve (Jämsä et al. 2011).

The role of the owner/managers has also been identified as important in engaging SMEs in sustainability practices. The majority of SMEs are both owned and managed by the same individual, and compared to the bigger listed organizations that are increasingly under pressure from various stakeholders to report on their sustainability practices, the owner/manager does not have to answer to shareholders and a board and thereby has more freedom and power to implement sustainability practices – or to ignore them (Association of Chartered Certified Accountants 2012). SME owner/managers are responsible for initiating and implementing sustainability practices in their firm (Choongo et al. 2017). Hamann et al. (2015), further argued that SME owner/managers are key in the adoption of sustainability in developing countries. For example, Demuijnck and Ngnodjom (2013), in their study on the responsibility and informal CSR in formal Cameroonian SMEs to empirically study business practices and management behaviour in SMEs, found that the SME owner/managers in Cameroon consider themselves responsible for the well-being of their employees and for their community. In addition, the number of employees has been found to be one of the most influential structural factors affecting the implementation of environmental practices by a firm (González-Benito and González-Benito 2006).

Therefore, in order to increase the local sustainability performance of the mining SC in Zambia, there is a need to extend sustainability practices to all the SC members. As such, in this study the interest is to investigate how these mining MNCs (focal firms) can cause SME suppliers to increase their sustainability uptake, thus extending sustainability practices to the entire SC, and the role of the SME owner/managers in the sustainability uptake, hence, the focus on the SME owner/managers.

3.5.1 Extending sustainability to SME suppliers

Stakeholder pressure to increase transparency and accountability, has raised concerns about the impact of suppliers and sub-suppliers on sustainability (Miemczyk et al. 2012). Firms have responded by adopting and implementing sustainability requirements. However, firms face several challenges in managing sustainability along their SC (Gimenez and Sierra 2013). Since the boundary of responsibility often extends beyond the reach of a firm's ownership and direct control, and that SCs comprise of interdependent firms that may influence one another's reputation and performance. Consequently, the firm's corporate image, in terms of economic, environmental and social behaviour, is heavily dependent on its SC and the sustainability performance of each and every chain link, including suppliers and sub-suppliers (Leppelt et al. 2013).

The governance mechanisms for extending sustainability to SME suppliers, can broadly be grouped into two strategies or approaches; hands-on-approach (direct management approach) and hands-off-approach (indirect management approach). In the hands-on-approach the buying firm invest personnel, time and resources to increase the performance and/or capabilities of suppliers, whereas the hands-off-approach are market-based on standards, because focal firms have been able to embed complex quality information into widely accepted standards and codification and certification procedures. The example of hands-on-approach includes supplier assessment, collaboration and supplier development, while hands- off approaches include standards such as social and environmental certification (SA8000 and ISO 14001 standards respectively) (Gimenez and Tachizawa 2012; Gimenez and Sierra 2013). Other studies on governance mechanisms to extend sustainability to suppliers have focused on the implementation of suppliers' codes of conduct and assessment (Gimenez and Sierra 2013). Suppliers' codes of conduct stipulate operational issues, such as safe and hygienic working conditions, no use of child labour, reasonable working hours, and paying living wages (Jiang 2009), and they can serve as criteria for evaluating and selecting suppliers and to determine a minimum level of improvement in order to create more sustainable products (Harms et al. 2013). In this study, will consider among others the governance mechanisms for

extending sustainability to SME suppliers from focal firms to first-tier suppliers and then to second-tier suppliers in a developing country.

3.5.1.1 SMEs supplier assessment and collaboration

Supplier assessment consists of activities such as establishing assessment criteria, gathering and processing information upon suppliers' sustainability, whereas supplier collaboration is akin to joint decision-making and development efforts for sustainable products and operations (Gimenez and Sierra 2013; Gualandris and Kalchschmidt 2016).

Various studies have examined the contribution of these approaches to improving environmental and/or social performance and few written reports have studied their impact on sustainability. However, the extent and mode of implementation vary significantly. For instance, Keating et al. (2008) and Large and Gimenez Thomsen (2011) found that supplier assessment and collaboration have a positive impact on sustainability. Simpson et al. (2007), and Ciliberti et al. (2009) considered only assessment and analysed its impact on social and environmental performance. Ciliberti et al. (2009) found support for a positive effect for the implementation of assessment practices on environmental and social performance, while Simpson et al. (2007) found that the presence of assessment by itself does not help translate customer requirements into SME suppliers' environmental commitment.

In a case study of SMEs, Lee and Klassen (2008) found that the combination of evaluation and collaboration provides synergies that help SME suppliers build the organizational capabilities that enable them to improve their environmental performance and that of their buying firms (i.e. customers). In another study on the integration of sustainability risk management in supplier management processes, Foerstl et al. (2010), found that supplier assessment enables the effective implementation of sustainable supplier development. However, Reuter et al. (2010), argued that relying only on assessment or collaboration is not effective, and (Gimenez and Tachizawa 2012; Gimenez and Sierra 2013), concluded that both mechanisms, supplier assessment and collaboration with suppliers have a positive and synergistic effect on environmental performance

and social responsibility. However, the same authors found that assessment acts as an enabler of collaboration.

3.5.1.2. SMEs supplier monitoring and control based and mentoring based approach

According to Meqdadi et al. (2012), focal firms may use monitoring and control based and support/mentoring-based (or collaboration) approach to engage SME suppliers in sustainability initiatives. According to Lee and Klassen (2008), monitoring and control approach is an arm's-length approach, aimed at gathering and processing of the SME supplier information, setting of SME supplier assessment criteria, and evaluation of the environmental performance of incoming goods from SME suppliers in order to control the outputs and align them to particular performance criteria. It is an ideal approach for SME suppliers that are unwilling to address their environmental impact unless threatened by strong external forces such as customer demand, as such their innovation and capability-building are mostly driven by buying firms. Therefore, in order to gather supplier information that helps to uncover deficits at an early stage and initiates corresponding counteractive measures, the buying firm may send out questionnaires (Kopfer et al. 2005; Large 2006a).

Support/mentoring approach is based on collaboration and close relationships between customers (buying firm) and SME suppliers and includes a wide range of activities that generally are initiated by the buying firm. These activities may involve providing training and education programs to SME suppliers, sponsoring environmental programs, sharing of information and experience, and undertaking joint research (Vachon and Klassen 2006; Lee and Klassen 2008).

Vachon and Klassen (2006) argues that the monitoring/control approach requires less time and fewer resources, but it does not enable or verify the SME suppliers' actual sustainability performance. Hence, the approach may create 'green-washing' behaviour (Meqdadi et al. 2012). The approach fosters sustainability and environmental innovation of SME suppliers and provides access for SME suppliers to the required resources to build their environmental capabilities.

However, it requires buying firm to allocate resources and investment to improve their SME suppliers' environmental performance (Rao and Holt 2005). In addition, Meqdadi et al. (2012), concluded that a mentoring approach rather than a control or monitoring approach is more effective in fully engaging SME suppliers in sustainability initiatives.

The above strategies (monitoring and collaboration) are only effective at extending the sustainable practices to first-tier suppliers (Vachon and Klassen 2006). As such, large firms have also realized that managing the sustainability of first-tier suppliers may not be enough (Wilhelm et al. 2016b), since most serious social and environmental issues in the SC are often generated by sub-suppliers and it's estimated that lower-tier suppliers generate up to 90 percent of greenhouse gas emissions (Grimm et al. 2011; Plambeck 2012).

Lower-tier suppliers possess some characteristics that make it complicated for focal firms to manage their sustainability. First, focal firms have less information about the lower-tier suppliers (Choi and Hong 2002). Second, focal firms do not have enough influence over lower-tier suppliers. Third, lower-tier suppliers are less visible and tend to be less susceptible to environmental pressure from society (Lee et al. 2012; Wilhelm et al. 2016b). Finally, lower-tier suppliers tend to have a more unstable relationship with the rest of the SC since they can be changed easily (Cueto and Romero 2004). Therefore, for focal firms to manage the sub-suppliers, Tachizawa and Wong (2014) proposed the following approaches that they may employee;

i) **Direct approach**

   In this approach, the focal firm establishes direct contact with lower-tier suppliers by by-passing the first-tier suppliers in order, to monitor, govern and collaborate with them to improve their environmental or social performance. However, the links may also be informal and may occur on an ad hoc basis, for example, when the focal firm provides information that might improve lower-tier supplier sustainability (Tachizawa and Wong 2014).

Pilbeam et al. (2012) argues that the coordination of dispersed supply networks is less costly and more effective when there is centralization and it is conducted by a focal firm. Small suppliers lack the information, resource or expertise to manage environmental issues, and need an external stimulus from end-user product manufacturers (Lee 2008).

However, the main drawback of this approach is the increased managerial effort demanded by the focal firm (Mena et al. 2013). For example, when focal firms have to identify and monitor lower-tier suppliers (Choi and Hong 2002). On the other hand, firms that build a great number of alliances are able to extract more value from these links, as they gain more experience (Plambeck 2012).

ii) **Indirect approach**

In this approach, the focal firm's link with lower-tier suppliers is performed indirectly through another supplier. For example, focal firms may use their power over first-tier suppliers to make them monitor or collaborate with lower-tier suppliers. However, it may be difficult for a single company to manage compliance within the entire SC, thus cross-tier collaboration is essential (Mueller et al. 2009; Koh et al. 2012), as such, focal firms may exert pressure on first-tier suppliers to require environmental or social certification from lower-tier suppliers (Tachizawa and Wong 2014).

According to Ayuso et al. (2013), small businesses may be effective in spreading the sustainability requirements received from large companies to their own suppliers. As such, information-sharing mechanisms are highly important in this approach; for instance, when first-tier suppliers adopt the same standard as the focal firm, they are able to gather sustainability-related information for lower-tier suppliers (Ciliberti et al. 2009). For example, firms such as Nike train key first-tier suppliers on the use of environmental databases to monitor and collaborate with lower-tier suppliers (Plambeck and Denend 2011).

iii) **Work with third parties**

This approach involves focal firms collaborating or delegating responsibilities to other organizations such as NGOs, competitors, firms from the same industry, standards institutions, to expound sustainability standards, implement industry self-regulation (Prado 2013) or voluntary standards (Grimm et al. 2011; Peters et al. 2011), monitor suppliers using third-party sustainability databases (Tachizawa and Wong 2014).

However, although the focal firms can delegate some responsibilities to the third parties such as certification bodies, they still have to provide inputs to such third parties such as resources and even supervise their effectiveness. Another approach to working with third parties is by implementing coalitions with competitors and other industries to improve negotiation power with respect to lower-tier suppliers and create or participate in voluntary sustainability initiatives which involve lower-tier suppliers (Grimm et al. 2011; Peters et al. 2011).

iv) **Don’t bother**

In this approach, focal firms have neither information about lower-tier suppliers nor intention to influence them. They focus only on first-tier suppliers. This approach is common in focal firms with limited power in the SC (Esty et al. 2006).

Don’t bother strategy may be more applied to firms with less visibility to the final customer (Caridi et al. 2010) or SCs with fewer tiers. Firms that face less intense institutional pressure tend to be “followers” and adopt a more conservative approach (Tachizawa and Wong 2014). They implement successful practices after they are tested by pioneer companies (Simpson et al. 2007) or use the same first-tier suppliers as focal firms (Esty et al. 2006). Such firms are generally smaller and have fewer technical and financial resources (Delmas and Montiel 2009).

The above four approaches may be complementary to each other, more specifically a firm may simultaneously rely on more than one approach for a specific supplier. For example, a firm may collaborate with lower-tier suppliers by training them on cleaner production methods and, at the same time, work with an NGO to design an industry-specific environmental standard. Particularly, the purchasing of certified material often suggests the collaboration with a third party and at the same time the delegation of part of the responsibilities on lower-tier suppliers to the certifying organization and the first-tier supplier (Tachizawa and Wong 2014). Therefore, the higher the complexity, the more diversified should be the set of governance mechanisms (Grandori and Soda 2006).

3.5.1.3 Sustainable Supplier selection and evaluation

Sustainable supplier selection can be described as SME supplier selections challenge in which, economic, environmental and social criteria are considered in order to select and monitor the supplier's performance (Badri Ahmadi et al. 2016). The objective is to identify the supplier(s) with the highest potential to satisfy the needs of the focal firm consistently in a sustainable manner and at an acceptable cost (Büyüközkan and Çifçi 2011; Neumüller et al. 2016). Accordingly, the objective is not just to meet the needs of the present stakeholders but to maintain the capability of future stakeholders to satisfy their needs as well (Neumüller et al. 2016).

3.5.1.3.1 Economic criteria

Several studies have highlighted that cost/price followed by delivery, quality and technical capability were the most important criteria in assessing suppliers (Govindan et al. 2013; Azadnia et al. 2015; Fallahpour et al. 2017). However, Ho et al. (2010), revealed that the most accepted criteria for supplier selection was quality, followed by delivery, price/cost, manufacturing capability and service. Whereas Liao and Kao (2011) summarized articles since 1966 and found quality, price and delivery performance to be the most important economic supplier selection criteria. Awasthi et al. (2018), concluded by suggesting that there is

relative consensus that cost, quality, delivery speed, and flexibility are key decision criteria.

3.5.1.3.2 Environmental criteria

In their survey of literature, Govindan et al. (2015), ranked the widely used environmental criteria as environmental management system, followed by green image, environmental performance, design for environment, green competencies, environmental improvement cost, ISO 14000 and green product. Other environmental criteria that have been used for evaluation of suppliers include waste management, packaging/ reverse logistic, environmental certificates and environmental friendly product design (Azadnia et al. 2015). Hsu and Hu (2009), in their research for development of a model for evaluating and selecting suppliers, emphasised on environmental management system, hazardous substance management system, capability of green design criteria and green materials coding and recording as environmental criteria. Whereas Yeh and Chuang (2011), undertook to solve supplier social selection and production volumes transportation problems by integrating environmental performance assessment, green image, green design, green supply chain management, product recycling and pollution treatment cost. However, Kannan et al. (2013), determined environmental criteria as pollution production, resource consumption, eco-design and environmental management system. Other researchers, such as Kuo and Lin (2012), commented on a broad categories of environmental administration system, environmental system, environmental planning, and green purchasing in their analysis network process and data envelopment analysis to select green supplier. Whereas Grisi et al. (2010), deliberated on ecological materials, environmental policies, environmental planning, ISO14001 and green image as the assessment criteria for green supplier selection.

Other researchers have considered both economic and environmental criteria when evaluating and selecting green suppliers. For example, Lee et al. (2009), considered quality, technology capability, total product life cycle cost, green image, pollution control, environment management, green product and green

competencies. Chen et al. (2010), proposed delivery, quality, flexibility, green design, green purchasing, life cycle assessment, ISO 14000 certificates, R&D green products, cleaner production and environmental management system for green supplier selection.

3.5.1.3.3 Social criteria

Several studies in the field of sustainable supplier selection focused on environmental and economic aspects of sustainability, social responsibility was just incorporated due to increased pressure from governments and stakeholders (Azadnia et al. 2013; Azadnia et al. 2015). Awasthi et al. (2018), there are four social criteria for assessing suppliers, namely, labour practices and decent work conditions, human rights, society, and product responsibility. However, the widely used social criteria have been summarised as discrimination, long working hours, human rights, health and safety, information disclosure, the rights of stakeholders and employment practice (Govindan et al. 2013; Azadi et al. 2015; Fallahpour et al. 2017). Whereas, Bai and Sarkis (2010), categorised social criteria into two main criteria: (1) Internal social criteria including employment practices and safety factors (2) External social criteria including local communities influence, contractual stakeholders influence. Based on the extant literature, a summary of the supplier criteria, sub-criteria and description is presented in Table 3.1.

Table 3.1: Sustainable supplier performance evaluation and selection criteria

CRITERIA	SUB-CRITERIA	DESCRIPTION
Economic	Costs	Product cost, ordering and logistic cost, inventory cost, materials cost, after sales service cost, custom and insurance cost.
	Quality	Rejection rate of the product, percentage of defective products, quality related certificates, capability of quality management, process for internal quality audit of material, capability of handling abnormal quality.
	Lead Time	Time between placement and arrival of an order
	Delivery & Service	Lead time flexibility, after sales service, time to solve the complaint, on time delivery
	Flexibility	Flexibility in discount, flexibility of delivery time, flexibility in ordering
	Technology Capability	Technology and R&D support, technology level and capability of design.
Environmental	Green transport	Using a modern eco-efficient transport fleet, using green fuels
	Resource Consumption	Consumption of raw materials, energy and water.
	Green Product	Green certification, re-use, green packaging, air emissions, waste water, hazardous wastes.
	Green technology	Materials used in the supplied components that reduce the impact on natural resources, capability of R & D, ability to alter process and product for reducing the impact on natural resources.
	Eco-design	Recycle of product when design, re-manufacturing, reduction of the use of hazardous materials when design
	Environmental Management System	ISO 14001 certification, environmental performance evaluation, eco-labelling, environmental-friendly raw materials
	Green warehousing	Inventory of non-hazardous substances, inventory of substitute material, warehouse management
Social	Health and Safety Practices	Occupational health and safety programs, education, training, counselling, prevention, and risk-control programs in place to assist workforce members or community members regarding serious diseases, health insurance at work, training for safety at work, providing appropriate equipment at work.
	Social Responsibility	Supporting community projects, supporting educational institutions, grants and donations, job creation.
	Education Infrastructure	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.
	Employment Practices	Labour relations, human rights and interest of employee, flexible working arrangements, working conditions and abolition of child labour, equity of labour sources, diversity and discrimination, wages, attention to religious and cultural issues at work (such as praying).
	Worker's rights	Contract, employment insurance, employment compensation, standard working hours, overtime pay.

Source: Author's own

3.5.1.4 SME Supplier development

Supplier development has been defined by Krause et al. (2000: 34) as “any activity undertaken by buying firms’ to improve supplier performance and/or supplier capabilities, in order to meet the buying firms’ short- and/or long-term supply needs.” It is a core strategy and a critical element of SSCM and requires extensive multi-stakeholder collaboration (Liu et al. 2018). According to Yawar and Seuring (2017), supplier development is not only emerging as the primary approach of managing SC sustainability issues but also interrelated with other actions such as supplier selection or evaluation (Zimmer et al. 2016). While Tachizawa and Wong (2014), suggested that supplier development facilitates capability building in supplier evaluation. However, Shokri et al. (2010), argued that supplier development is considered as improving the flow of information from the buyer in order to upgrade the suppliers of different tiers.

3.5.1.4.1 Supplier development approaches

According to Sánchez-Rodríguez et al. (2005), supplier development approaches can be categorized into basic, moderate and advanced supplier developments. The buyer with limited resources is more prepared to apply basic supplier development practices, including supplier evaluation, feedback, supplier selection and supplier awarding *(Ibid).*

When evaluating supplier activities, Lo and Yeung (2006), found that supplier development can be applied both directly and indirectly. In the case of direct supplier development, the buying organization commits human or capital resources to the supplier (Akamp and Müller 2011), and includes awareness of supplier quality, reporting quality problems, evaluating supplier performance and providing feedback and technical assistance (Lo and Yeung 2006; Wagner 2006). Whereas, in the case of indirect supplier development, the buying organization commits no or only limited resources to the supplier (Akamp and Müller 2011), and includes such activities as evaluation and communication, which are closely related to direct supplier development, as such could be seen as the enabler of direct supplier development Krause et al. (2000).

However, Krause et al. (2000), proposed reactive and proactive or strategic efforts approaches for supplier development. The reactive effort increases the performance of existing poor supplier capability, while proactive or strategic efforts aim at increasing supplier's performance on a long-term basis (Lo and Yeung 2006). The strategic efforts have been found to be more effective; however, it needs a trust orientated relationship, more suppliers' commitment and more buyers' resources (Shokri et al. 2010). Krause and Ellram (1997) found that companies with successful supplier development efforts were more likely to have a proactive philosophy regarding supplier development, put more effort and resource into their supplier development and exhibited a greater willing to share information with their supplier.

3.5.1.4.2 Supplier development outcomes

The benefits of supplier development in both suppliers and buyers have been acknowledged in various literature sources. For example, Li et al. (2012), argued that the outcomes and benefits are higher product availability, better delivery speed, and enhanced reliability of the buyer. Sánchez-Rodríguez et al. (2005) found that all supplier development constructs contribute to the purchasing performance.

In a study conducted by Arráiz et al. (2013), to evaluate the impact of the Chilean Supplier Development Program aimed at improving and stabilizing the commercial linkages between small and medium-sized suppliers and their large firm customers. They found that both SMEs and large firms benefited from the coordinated efforts, through increased sales, employment, and the sustainability of SME suppliers. However, in an exploratory study to have a better understanding of how supplier development practices affect buyer–supplier performance and buyer competitive advantage, Li et al. (2012) found that the critical influencing factor was top management support. The same authors also reviewed other factors that influence supplier development such as effective communication, strategic goals, long-term commitment, supplier evaluation, trust in supplier, and supplier strategic objectives.

According to Govindan et al. (2010), managers have come to the realization that actions taken by one member of the SC can influence the responsiveness, efficiency and profitability of the entire SC. Consequently, firms are increasingly thinking in terms of competing as part of a SC against other SCs, rather than as a single firm against other individual firms. Therefore, this study seeks to investigate the activities, if any; the focal firms undertake to develop their smaller suppliers' capabilities.

3.5.2 Extending sustainability by SME suppliers

The external pressure to extend the sustainable practices to the entire SC has shifted focus towards the first-tier supplier as the disseminator of sustainability standards in the quest for the creation and management of sustainable multi-tier SC (Ayuso et al. 2013; Grimm et al. 2014). Additionally, the complexity of SC make necessary focal firms to depend largely on their direct suppliers to manage sub-suppliers (Wiese and Toporowski 2013). Therefore, the SMEs suppliers form a critical part of the SCs with focal firms, as such, they are required to transfer sustainability behaviours along the SC and encourage their SC partners, i.e. customers and suppliers (Wilhelm et al. 2016b).

3.5.2.1 SMEs as suppliers

SME suppliers as first-tier suppliers are agents for the focal firm. Consequently, may make vital decisions that may impact the sustainability performance of the entire SC (Wilhelm et al. 2016b). Such decisions include supplier selection and deselection and alignment of process according to focal firms' (customers) expectations (Choi et al. 2001). Their SC behaviour is mainly driven by their customers, especially large businesses and public authorities (Ciliberti et al. 2010).

3.5.2.2 SMEs as buyers

As buyers, enables SMEs to transfer sustainability practices along the SC to their suppliers (upstream), by pursuing management strategies that combine both the compliance with requirements and the capacity building approaches (Ciliberti et

al. 2008). The compliance with the requirements approach sets standards for suppliers and aim at preventing non-compliance with a strict monitoring program. When the non-compliance suppliers are detected, their contract is immediately terminated or business with them stopped until the corrective measures are implemented (Martela 2005).

The capacity building approach aims for continuous improvement by building up the SME supplier's own capacity of handling sustainability issues (Ciliberti et al. 2010). According to Martela (2005), the requirement for this approach is building long-term, close relationships with suppliers. However, the SME suppliers' control and influence on their suppliers are generally limited and restricted to their direct suppliers (first-tier suppliers) (Ciliberti et al. 2008). This could be attributed to their lack of power. However, the choice of practice is dependent on the vision of the owner and the socio-economic context wherein the company operates (Ciliberti et al. 2008).

3.5.3 Contingency variables

When investigating supplier management practices, it is imperative to consider the context under which the practices are more effective (Sousa and Voss 2008). This is because the contingency variables have an effect on the chosen governance mechanism. The following are some of the contingency variables found in the SSCM literature that may influence a chosen supplier management practice;

3.5.3.1 Power in buyer-supplier relationship

Power is the ability to influence the activities of other members of the SC (Pilbeam et al. 2012). According to Touboulic et al. (2014), the power dynamics are central to understanding supply relationship-management practices. This is because power influences the depth of collaboration between buyers and suppliers in SC networks (Kähkönen 2014). For instance, coordination through standards is enforced by a powerful SC member (Ciliberti et al. 2009), and supplier power limits SSCM (Hoejmose and Adrien-Kirby 2012). Furthermore, collaboration is

influenced by trust, and firms use power to enforce compliance (Handfield and Nichols 1999).

According to the extant literature, there are several types of power, which they grouped into two as coercive and non-coercive power.

3.5.3.1.1 Coercive power types

Coercive power is perceived as a "hard" type of power, which is usually based on the expectation of retribution and intimidation and depends on the belief that punishments will be forthcoming or rewards will be withheld unless the requested behaviour is demonstrated (French and Raven 1959; Blau 1964). In the SC network context, coercive power reflects the fear of a SC actor to be punished if it fails to comply with the requirements of the focal firm. However, consistent use of retribution and intimidation may encourage the affected firm to dissolve the cooperative relationship. Because of this, coercive power is normally employed when the power advantage is clear and the influenced party's alternatives are limited (Bowersox et al. 1980).

3.5.3.1.2 Non-coercive power type

Non-coercive power type also known as legitimate, referent, expert, informational or reward, is perceived as "soft" techniques of influence. Instruments of soft power may include debates, dialogues, dissemination of information, attempts to influence through good examples, appeals to commonly accepted norms and values, among others (Belaya and Hanf 2014).

However, Parmigiani et al. (2011) made a distinction between two types of power. They classified coercive power as economic (negotiation power) and non-coercive power as non-economic (industry influence). Alternatively, Mena et al. (2013) used the power source to make power distinction such as; possession of resources (e.g. ability to offer contracts) and SC position (e.g. proximity to the market). Therefore, power plays a significant role in the SC, and the different sources of power have contrasting effects on inter-firm relationships in the SC. Thus, both the power source and the power target must be able to recognize the

presence of power, and then reconcile SC strategy for power influences (Maloni and Benton 2000).

In the mining SC, comprise of two main actors, powerful MNCs and a cluster of SME suppliers. Therefore, in this study, the researcher is interested in understanding how the MNCs may use the power advantage to influence the sustainability behaviour of SME suppliers.

3.5.3.2 Effects of industry type on governance mechanism

According to Wiengarten et al. (2012), companies that operate in static industries tend to invest a higher amount, more productively, in environmental practices than firms in dynamic industries. This is particularly significant when lower-level suppliers are taken into account, because, by definition, they produce more basic raw materials, hence, a more static industry context (Tachizawa and Wong 2014). Thus, standards may be less efficient when there is a substantial technological change within the supply network (Pilbeam et al. 2012).

Simpson et al. (2012) claims that when companies operate in high-pollution industries, such as mining and chemical, institutional pressure for performance improvement is often more intense, then they tend to develop superior environmental capabilities and take a more proactive plan of attack. Alternatively, firms that operate in low-pollution sectors face less intense institutional pressure and tend to wait longer to adopt new sustainability practices.

This study will be conducted in the mining industry, in a high-pollution industry, in a developing country context, as such, it is of interest to find out the intensity of the institutional pressure and the level of investment in sustainability (i.e. the extent to which sustainability is practiced).

3.5.3.3 Effect of knowledge resources on governance mechanism

According to Esty et al. (2006), lack of knowledge resources is an important incentive for focal firms to collaborate with third parties on the design and implementation of sustainable practices in the SC. Equally, Plambeck and

Denend (2011) contend that even big MNCs may lack the technical expertise to oversee the sustainability of their suppliers and, as a result, they need to unite with NGOs to execute sustainability in their SCs. On the other hand, firms with less technical resources may adopt a conservative strategy, implementing sustainable practices after focal firms, thus, lowering their risks (Simpson et al. 2007; Delmas and Montiel 2009).

However, these studies were conducted in the western developed and developing Asian countries whose economies are far ahead of economies in sub-Saharan countries. Consequently, this study seeks to investigate the sustainability practices of SMEs and how they extend the sustainability behaviour to their suppliers, which are mostly informal.

The other contingency variable, stakeholder pressure, is discussed in section 3.7.2.2, page 91.

Having discussed the approaches for extending sustainability requirements to suppliers and the contingency variables that affect the chosen approach, the next section considers the barriers and drivers to implementing SSCM by SMEs. This will justify the challenges that have been documented and hinder SMEs from practicing sustainable development.

3.6 SME Suppliers' Barriers and Drivers to Engage in Sustainability Practices

The SSCM barriers and drivers for SMEs differ from those that apply to large organizations. The barriers and drivers are either internal and/or external. Internal barriers and drivers are obstacles and initiatives that arise within the firm and impede or pressure the SSCM implementation. External barriers and drivers are obstacles and initiatives that arise outside the firm and prevent or pressure the SSCM adoption. They can be technical or non-technical, which include organisational culture, change management barriers, human or skills (Sarkis et al. 2010).

3.6.1 Barriers

The existing literature sheds light on the different kinds of barriers that may hinder SME suppliers from adopting sustainability practices. According to Ghazilla et al. (2015), SMEs' lack of resources affect their ability to adopt new practices, but Carter and Rogers (2008) observed that SMEs fail to adopt sustainability initiatives due to internal factors such as sunk costs, improper communication structures, internal politics, and institutional norms. While Lewis and Cassells (2010), points out that cost, time and lack of resources are what hinders SMEs adopting SSCM. Hillary (2004) and Walker et al. (2008), went further by classifying the barriers SMEs face into internal and external, with external barriers out-numbering the internal barriers.

According to Lepoutre and Heene (2006), SMEs' lack of power is the most reported barrier to sustainability initiatives. Due to their smaller size, SMEs have a lower negotiation power and leverage to modify environmental forces in the market, with their suppliers. The limited power to transfer sustainable behaviours by SMEs affects their ability to monitor environmental impact of suppliers or the working conditions at suppliers' sites (Ciliberti et al. 2008). Consequently, when resolving social and environmental problems, SMEs expect a considerable role from the government, giving indications on environmental standards or guidelines (Tilley 2000), rather than relying on voluntary self-regulation (Petts et al. 1999). As a result, SMEs work through employers' organizations or branch organizations that have an institutionalized place in the policy decision-making process (Doh and Guay 2006).

Perron (2005), identified four categories of barriers that impede the adoption of sustainability initiatives in SMEs. These include attitudinal and perception barriers (resistance of management to change, fear of failure among others), information related barriers (lack of awareness of environmental legislations, environmental impact of the operations in an organization), resources barriers (financial barriers and human resource barriers) and technical barriers (lack of new technologies, materials or lack of technical expertise). However, Chee Wooi and Zailani (2010), investigated the barriers that hinder the SMEs in Malaysia from implementing GSCM and found that resources and technical barrier as the key barriers.

According to Luthra et al. (2014), lack of commitment by top management is the most repetitive barrier to implementing sustainability.

Conway (2015) conducted a study to determine the engagement of SMEs in low carbon initiatives and their perceived barriers to adoption. While they found that SMEs were prepared to engage, they cited resource constraints and a lack of relevance to the business as the most common barrier. To understand the actual pragmatic decisions that SME owner/managers make, Moyeen and Courvisanos (2012), found time, money and resources as the key barriers. In their semi-structured interviews, some respondents gave such responses as; *"we'd like to do more, but for us we still have to make money", "…you never know just when you need that time or money".* Thereby confirming time and costs as the main reasons for not engaging in sustainable practices. However, in Ghana and South Africa Abor and Quartey (2010), found the barriers to SMEs as finance, access to international market, equipment and technology, regulatory issues and lack of managerial skills as the most significant constraint. In another study by Lund-Thomsen et al. (2016), they found the barriers to the adoption of sustainability in developing countries as lack of awareness or capacity and non-enforcement of national laws. However, pertaining to the mining industry and implementation SSCM in mining in developing countries Muduli et al. (2013), identified information gap, insufficient society pressure, poor legislation and capacity constraint as the main barriers. See Table 3.2, for the details of the barriers to SSCM adoption by smaller firms.

Table 3.2: Barriers of SSCM adoption for SMEs

Internal	Source	Sector	External	Source	Sector
Lack of resources	Hillary (2004)	Multi-sectorial	Regulations (Certifiers/verifiers)	Walker et al (2008)	Multi-sectorial
	Min and Galle (2001)	Waste management & packaging		Hemel & Kramer (2002)	Environmental design
	Ebinger et al. (2006), Angel del Brio et al. (2008), Wooi & Zailani (2010)	Manufacturing		Barve & Muduli (2013)	Mining
				Hillary (2004)	Multi-sectorial
High cost	Walker et al (2008)	Multi-sectorial	Poor supplier commitment	Walker et al (2008)	Multi-sectorial
	Min and Galle (2001)	Waste management & packaging	Effective legislation	Simpson et al. (2004), Gadenne et al. (2009)	Manufacturing
Lack of management commitment	Min and Galle (2001)	Waste management & packaging	Industry specific barriers/institutional weakness	Hillary (2004), Walker et al (2008)	Multi-sectorial
	Revel & Rutherfoord (2003), McAdam et al. (2004), Lin & Ho (2008)	Manufacturing	Politics	Carter & Rogers (2008)	Manufacturing
	Carter and Dresner (2001)	Environmental projects	Lack of effective environmental measures	Rao & Holt (2005)	Manufacturing
Difficult in obtaining information	Perron et al. (2006)	Manufacturing	Outsourcing	Govindan et al. (2014a)	Manufacturing
Environmental attitude	Revel & Rutherfoord (2003) Gadenne et al. (2009)	Manufacturing	Support and guidance	Hillary (2004),	Multi-sectorial
Understanding (knowledge) and perception/ awareness	Hillary (2004)	Multi-sectorial		Govindan et al. (2014a)	Manufacturing
	Gerstenfeld & Roberts (2000), Angel del Brio et al. (2008), Govindan et al. (2014a)	Manufacturing		Zhu and Sarkis (2006)	Inter-sectorial
			Lack of influence	Cote et al. (2006), Studer et al. (2008)	Multi-sectorial
Attitudes and company culture	Hillary (2004)	Multi-sectorial	Lack of Technology	Zailani et al. (2011), Govindan et al. (2014a)	Manufacturing
	Lee (2008)	Automobile		Luthra et al. (2011)	Automobile
Implementation	Hillary (2004), Rao and Holt (2005)	Multi-sectorial	Lack of external support	Luthra et al. (2011)	Automobile
Lack of expertise	Angel del Brio et al. (2008)	Manufacturing		Govindan et al. (2014a)	Manufacturing
Lack of Technology	Gerstenfeld & Roberts (2000), Quayle (2003), Govindan et al. (2014a)	Manufacturing			
	Lee (2008)	Automobile			
Limited finance	Gerstenfeld & Roberts (2000), Govindan et al. (2014a)	Manufacturing			
	Lee (2008)	Automobile			
Improper communication	Carter & Rogers (2008)	Manufacturing			
Organizational structure	McAdam et al. (2004)	Manufacturing			
Lack of training	Bowen et al. (2001)	Manufacturing			

Source: Author's own

3.6.1.2 Overcoming barriers

According to Ciliberti et al. (2010), the barriers may be overcome by establishing partnerships and networking. Partnerships between SC actors can give benefits for all the participants. For the focal firm, a partnership means better control over the SC; for suppliers, a reliable, long-term relationship offers better opportunities to allocate more efficiently scarce manufacturing and development resources (Pesonen 2001). However, in order to develop partnerships, Walker et al. (2008) recommends such managerial approaches as lateral thinking and openness.

Walker and Preuss (2008), suggest a partnership approach in public procurement processes from SMEs whose governance involves a greater range of actors. These firms, beside supplying more sustainable goods and services can also contribute to sustainability by bringing crucial know-how and linkages to other organisations (Ciliberti et al. 2010). Biondi et al. (2002) posit that SMEs may benefit from collaboration in regional clusters or networks. Accordingly, partnerships that involve government agencies, SMEs and other SC partners have been associated with reductions in pollutants and waste generation, and implementation of pollution prevention practices (Granek and Hassanali 2006). In addition, partnerships with government agencies offer SMEs more credibility *(Ibid).*

However, the partnership is not without limitations. For example, Bruijn and Hofman (2000) found that most pollution prevention projects developed by means of a partnership among SMEs, municipalities, trade associations, consultancy agencies, and research institutes (such as universities), although succeeding in realising environmental improvements for the participating companies, the single initiatives may prevent SMEs learning the art of pollution prevention. Therefore, to be successful partnerships would have to be repeated in the course of time (Ciliberti et al. 2010). In addition, in some cases where a partnership approach was adopted, SMEs have been sceptical about the benefits they would achieve (Morrissey and Pittaway 2004). Consequently, to remove such scepticism, Roberts et al. (2006) proposed for a partnership built with organizations that are valued and trusted by SMEs.

According to Ciliberti et al. (2010), networking is a suitable method for monitoring the sub-suppliers and accessing information on working conditions and local laws in developing countries. This is because SME owner/managers can rely on NGOs or local networks of supporting organizations. For example, joining fair trade consortiums can be useful to retrieve such information as well as to provide more information on sustainability and as the means to transfer sustainability behaviours to the SC (Ciliberti et al. 2008).

Sourani and Sohail (2011) identified four key parties most capable of removing barriers to sustainability. These are **1)** government (including regulatory bodies), **2)** professional/educational bodies, **3)** the supply chain and **4)** users. The government have an important role in providing consistency policies, structure guidance, tools and techniques as well as demonstrations and best practice. The professional and educational bodies play a key role with regard to increasing the awareness of society as a whole in relation to sustainability. The SC may a play a key through integration with itself to increase the likelihood of addressing sustainability, since many of the benefits of sustainability are normally realised over the long term. The end users may play a key by demanding for sustainable products.

3.6.2 Drivers

The drivers for motivating SMEs to engage in sustainability practices can be divided into internal and external. Holt et al. (2000) identified seven types of drivers, which support SMEs in improving their environmental performance. These include government, trade associations and sector bodies, partnership groups, individual companies, business support organisations, non-for profit green business-support organizations and green business clubs. Lee (2008) surveyed 142 SMEs suppliers in South Korea and explored the drivers for the participation in green SC initiatives. He identified three drivers such as buyer influence, government involvement and GSC readiness (internal characteristics of the SMEs). In another study using a case study method with multiple suppliers, Lee and Klassen (2008), identified three drivers that foster environmental

management capabilities in SME suppliers in SC. These drivers included environmental championing, monitoring (buyers) and public and regulatory pressure. However, Baden et al. (2009) and Meqdadi et al. (2012) argued that the main driver for SMEs engagement in sustainability activities is not external pressure, but internal drivers based on moral and ethical values.

Lewis and Cassells (2010), surveyed 48 firms in New Zealand, and identified three top drivers for the environmental practice uptake in SMEs. These included cost reduction and/or financial benefits, responsibility to the community and personal dedication. While, Nejati and Amran (2009) in an exploratory study on motivation from Malaysian perspective and using exploratory interviews with SME managers, observed that SMEs engage in sustainability due to their beliefs and values, religious thought and pressure and encouragement from stakeholders. Accordingly, Moorthy et al. (2012), identified five drivers for the Malaysian SMEs to green, these include economic benefits, financial incentives, stakeholder demand, legislation, resources, motivation and knowledge.

Hamann et al. (2015) posit that the manager's environmental responsibility as the key driver than competitiveness and legitimacy-seeking in a context where state regulation hardly play any role in regulating dispersed small-scale businesses. This was in their study on why do SMEs go green an analysis of wine firms in South Africa. This implies that SME managers are the key to the adoption of sustainability in developing countries. Kamolkittiwong (2015) identified eight drivers affecting implementation of GSCM in Thailand. These include regulatory and top management as the top driver. Other drivers are economic benefit, competitors, cost reduction, social/ stakeholders, reverse logistics and supplier.

However, the most cited driver is the SC pressure which, often comes from large customers (focal firms) in the SC that dictate conditions to smaller suppliers (Spence 2006). Focal firms are more visible than SMEs as such take responsibility (Bowen 2000). The focal firm's conditions may range from seeking assurance that the SME is compliant with sustainability standards (Hamann et al. 2005), to the fairness of the relationship with the supplier (when negotiating terms

and conditions, timely payments, etc.), and the use of power in supplier relationships (Cox 2004). Particularly, to maintain the relationship, Jenkins (2004b), reports that large firms often require their SME suppliers to provide evidence of the actions undertaken to improve their environmental and/or social performance, such as codes of conduct. Ghazilla et al. (2015), categorised the drivers which motivate the implementation of sustainability in manufacturing SMEs as legislations, organisational style, eco knowledge, business environment, society influences, financial incentives and innovation. However, Aghelie (2017), classified the drivers for sustainability practices for SMEs as regulation, knowledge and training, organization culture, business ecological concerns, social influences, financial motivations and competitiveness. The drivers identified from literature for SSCM adoption by the small firms are summarised in Table 3.3 below.

Table 3.3: Drivers to SSCM adoption for SMEs

Internal	Source	Sector	External	Source	Sector
Supporting from top management	Liu et al. (2013)	Multi-sectorial	Suppliers	Zhu et al. (2004), Diabat and Govindan (2011)	Manufacturing
	Studer et al. (2005), Routroy (2009)	Manufacturing		Abdul Rehman and Shrivastava (2011)	Supply chain-manufacturing
	Min and Galle (2001)	Waste management & packaging		Walker et al. (2008)	Multi-sectorial
	Evangelista et al. (2010)	Service		Khiewnavawongsa, (2011)	Electronic
Organisational strategy	Routroy (2009), Zhu et al. (2010), Diabat and Govindan (2011)	Manufacturing	Regulatory	Zhu et al. (2004), Pimenova & van der Vorst (2004), Studer et al. (2006), Studer et al. (2008), Zhang et al. (2009), Diabat and Govindan (2011), Zhu & Geng (2013), Hsu et al. (2013)	Manufacturing
	Khiewnavawongsa (2011)	Electronic			
	Vachon (2008), Walker et al (2008), Liu et al. (2012), Sari and Hasnelly (2012)	Multi-sectorial		Walker et al. (2008), Liu et al. (2012), Sari and Hasnelly (2012), Lin (2013)	Multi-sectorial
Socio-cultural responsibility	Pimenova & van der Vorst (2004), Hsu et al. (2013)	Manufacturing		Abdul Rehman and Shrivastava (2011)	Supply chain-manufacturing
				Min and Galle (2001)	Waste management & packaging
Improved competitiveness	Pimenova & van der Vorst (2004)	Manufacturing	Pressure from large firms	Williamson et al. (2006)	Manufacturing
Long term benefits	McKeiver & Gadenne (2005)	Manufacturing	Professional network	Moore & Manring (2009)	Manufacturing
			Collaboration of suppliers and customers	Eltayeb et al. (2011)	Manufacturing
Economic/ financial benefits	Pimenova & van der Vorst (2004), Routroy (2009), Zorpas (2010), Diabat and Govindan (2011)	Manufacturing	Market/consumers	Khiewnavawongsa, (2011)	Electronic
	Vachon (2008)	Multi-sectorial		Walker et al. (2008), Liu et al. (2012), Sari and Hasnelly (2012)	Multi-sectorial
Awareness of environmental impact	McKeiver & Gadenne (2005)	Manufacturing		Studer et al. (2005), Lin (2013), Zorpas (2010), Hsu et al. (2013)	Manufacturing
Reverse logistics	Routroy (2009), Diabat and Govindan (2011)	Manufacturing		Abdul Rehman and Shrivastava (2011)	Supply chain-manufacturing
Availability of information	Hitchens et al. (2003),	Manufacturing	Legislation	Zorpas (2010)	Manufacturing
Internal stakeholder pressure	Delmas & Toffel (2004), Studer et al. (2005), Zorpas (2010)	Manufacturing	Competitors	Zhu et al. (2004),	Manufacturing
Cost reduction	Williamson et al. (2006)	Manufacturing		Walker et al. (2008)	Multi-sectorial
Improved company image	Pimenova & van der Vorst (2004)	Manufacturing		Abdul Rehman and Shrivastava (2011)	Supply chain-manufacturing
Environmental education	Redmond & Walker (2009)	Manufacturing		Preuss (2007)	Local government procurement
				Evangelista et al. (2010)	Service
				Isaksson and Brodin (2010)	logistics
			Social/stakeholders pressure (public awareness)	Walker et al. (2008), Lin (2013)	Multi-sectorial
				Abdul Rehman and Shrivastava (2011)	Supply chain-manufacturing
				Pimenova & van der Vorst (2004), Vachon and Klassen (2007), Zorpas (2010)	Manufacturing
				Sharfman et al. (2007)	Multi-sectorial
			External stakeholders support	Hitchens et al. (2003), Parker et al. (2009), Lee (2008)	Manufacturing

Source: Author's own

3.6.2.1 Enablers of sustainable SCM

Enablers can be distinguished from drivers in that a driver is a factor that initiates and motivates firms to adopt SSCM, whereas an enabler is a factor that assists firms in achieving these sustainable practices (Gimenez and Tachizawa 2012). The enablers can be either internal covering factors within the focal firm that help achieve sustainable practices or external which concern factors beyond the firm's boundaries. Examples of internal enablers are the firm's environmental commitment, top management support, the availability of resources, the strategic role of the purchasing function, the development of supply management capabilities of purchasing personnel and appropriate performance measurement systems and amount of buyer power over first-tier suppliers. Whereas the examples of external enablers are mainly related to the characteristics of the SC relationship such as trust, willingness, geographical location/national culture, logistical and technological integration and clarity of objectives and oversight by NGOs, community and media (Alvarez et al. 2010; Gimenez and Tachizawa 2012; Dou et al. 2018).

Most of the studies that have considered the enablers do not distinguish between different governance mechanisms. However, a few studies have considered the enablers on assessment and collaboration. For example, the results by Bowen et al. (2001) and Large and Gimenez Thomsen (2011) suggest that different factors may contribute to the implementation of each approach (i.e. assessment and collaboration). Therefore, according to Gimenez and Tachizawa (2012: 537-540), the managerial implications arising from these studies is that a focal firm wishing to implement sustainable practices needs to have enough resources to develop the initiative and to ensure the following:

- It makes a clear commitment towards sustainability. This means having a clear policy statement that is operationalised in the firm through measures in its functional areas, and devoting the resources needed to implement these measures.
- It has senior management support for implementing the changes needed at the organizational and interorganizational levels.

- It recognizes the strategic position of the purchasing function within the firm. It is essential that purchasing forms part of the strategic planning process.
- It develops the supply management capabilities of purchasing staff so that they can effectively assess and work with the firm's suppliers.
- It adapts the performance measurement systems of functional areas (especially purchasing) in order to foster new and SSCM practices.

The above factors affecting the implementation of SSCM in the SMEs have been identified in developed and developing Asian countries that are further along the developmental path than any sub-Sahara African countries, in various industries including mining, manufacturing, and transportation, and service, automobile and electronic and electrical industries. There are limited studies that have been conducted in sub-Sahara Africa, in particular, Zambia. Therefore, as observed in the study in the analysis of the drivers affecting GSCM implementation in the electronics industry in Thailand by (Kamolkittiwong 2015), it is important to identify the factors that are critical for the implementation of the GSCM in any industry otherwise the newcomers intending to initiate implementation of GSCM in their respective factory may find it difficult. Knowing the main barriers and drivers for successful implementation of SSCM will aid the policymakers in the formulation of policies and design of programmes to engage SMEs in sustainable development. Moreover Meqdadi et al. (2012) emphasizes that the availability of know-how, owners' beliefs and the prevailing culture at SMEs were the most significant barriers or drivers for their participation in sustainability initiatives. This stresses the importance of taking into consideration the heterogeneous characteristics of SMEs when seeking their participation in sustainability initiatives. It is for this reason that this study will concentrate on the SME owner/managers to understand their side of the story for/against engagement in sustainability initiatives and establish the barriers and drivers they face in the context of a developing economy in sub-Sahara Africa.

The next section debates on the theoretical perspectives that have been employed in explaining the importance of sustainability in SSCM or the related literature.

3.7 Theoretical Perspectives

There is no unitary theory that has emerged to explain the importance of sustainability in management literature, especially in SSCM. However, the following theoretical perspectives may be used to explain the influence of stakeholders in SSCM, depending on the purpose of the study. These include variations of the resource-based view (RBV) (for example natural-RBV, contingency RBV), resource dependency theory (RDT), stakeholder theory, dynamic capabilities, transaction cost economics and Institutional theory. The following section reflects on the characteristics of the present study context in order to establish the requirements for a suitable organizational theory. The selected theory is subsequently presented in Section 3.7.2, page 87.

3.7.1 Applicability and selection of theories to the research context

Organizational theories can be defined "as a management insight that helps explain or describe organizational behaviours, designs, or structures" (Sarkis et al. 2011: 2). The present research context is characterized by the focal firms (larger firms) extending the sustainability requirements to suppliers to achieve a sustainable SC. Stakeholders and prior researches put emphasis on the larger companies who practice sustainability, and focus less on the SMEs, when the latter actually represents the largest percentage of the firms operating in a SC. Thus, the focal firms are expected to manage and control other SC members to engage in sustainability practices. However, the SC relationships are not a dyadic but a triadic relationship consisting of focal firms, direct suppliers and sub-suppliers. In addition, SC activities' influence goes beyond the confines of the SC by affecting individuals and groups outside of the SC, who equally affect the SC activities. Furthermore, in a triad, there exists no contractual direct relationship between the focal firms and the sub-suppliers. As such, the focal firms only exert

pressure on the direct suppliers, who in turn are expected to exert pressure on their suppliers (focal firm's sub-suppliers) to engage in sustainability practices.

However, when particular characteristics of SMEs are taken into account, poses problems for transferring sustainability requirements imposed by the large firms to their suppliers. This is because as discussed above SMEs face many challenges as a lack of financial and technical resources, capabilities, expertise and know-how to deal with sustainability issues. They face the dilemma of adopting sustainability requirements posed by their larger customers and at the same time transferring these requirements to their own suppliers. SMEs also face difficulties to engage and seek the cooperation of their suppliers in implementing sustainability activities since they lack the resources, skills and bargaining power (Meqdadi et al. 2012). In addition, SMEs lack formal management structures, and the SME owner/manager's perceptions and values often affect the way they approach sustainability (Jenkins 2009). Therefore, the requirements for the applicable organizational theories in the present research context may be summarized as follows:

- An applicable theory that should provide a theoretical framework that acknowledges and explains how firms can change SC partners' practices in accordance with the required sustainability standards.
- An applicable theory that should not be restricted to dyadic relationships.
- An applicable theory that should explain additional key factors that positively contributes to the firm's objective of changing practices.

Evaluation of the well-established organizational theories reveals a major shortcoming with respect to their applicability to the present research phenomena. This is because they mainly provide explanations for behaviours and outcome in dyadic relationships. For example:

Resource-based view emphasizes the role of resources and capabilities in forming the basis of competitive advantage (CA), and has been used to address the ability of firms to adopt sustainable practices resulting from internal capabilities/resources (Meixell and Luoma 2015). The resource is something that

a firm possesses, which can include physical and financial assets as well as employees' skills and organizational processes. A capability is something a firm is able to perform, which stems from resources and routines. As such, RBV focuses on factors internal to the firm that leads to a sustained CA, and ignores the interaction between a firm and its environment (Hart 1995). However, Delmas (2001) suggests that firms may be responsive to stakeholder pressure that brings access to resources to the firm. Nonetheless, supplier capability/collaboration can enhance a firm's ability to adopt sustainable practices if a well-developed system is in place (Ehrgott et al. 2011), which cannot be guaranteed among SMEs in developing economies. NRBV is considered as an adaptation of RBV, but it considers the environment. However, it also falls short of the requirements for this study as it is only applicable where a symmetric relationship exists, which may not be guaranteed in the context of present research.

Resource dependency theory suggests that organisations must satisfy the interests of various resource providers (Pfeffer and Salancik 1978; Sundin et al. 2008). It further suggests that in the SC, member firms should depend and collaborate to seek higher performance gains in the long-run instead of pursuing short-term benefits at the expense of others (Sarkis et al. 2011). That is a firm's survival depends on its ability to access critical resources from the external environment (Pfeffer and Salancik 1978). The theory seeks to explain the behaviour of a firm in terms of its context, which is determined by two factors: **(1)** the resources, defined as anything that is valuable to an organization, and **(2)** the dependence of one firm upon another in gaining access to valuable resources (Pfeffer and Salancik 1978). ''Dependence'' confers a degree of power to the organization controlling the resources required by another (Ulrich and Barney 1984). Therefore, the theory considers the external stakeholders that have no contractual relationship with the firm to influence its behaviour. For example, Frooman (1999) describes how primary and secondary stakeholders using RDT can influence a firm's behaviour in accessing key resources by determining whether or not the firm will receive the resources it requires using two pathways: direct and indirect. Direct influence strategies are those in which the stakeholder manipulates the flow of resources to the organization and indirect strategies are those in which the stakeholder works with an ally who manipulates the flow of

resources to the organization by either withholding or using them (Frooman 1999). Withholding and usage strategies are discussed in detail in Section 3.7.2.5, page 99.

Institutional theory examines how external pressures influence organizational actions by helping to explain how firms adapt to or adopt sustainable practices due to potential coercive, normative, or mimetic pressures. The theory argues that their institutional environment shapes organisations whereby organisations conform to the pressures of this environment and its constituents in order to obtain stability and legitimacy rather than the need for achieving economic efficiency (Dimaggio and Powell 1983; Sundin et al. 2008; Egels-Zandén 2014). Therefore, institutional theory may be used to explain the influence of various stakeholder types under differing institutional conditions (Sarkis et al. (2010). As such, the theory takes a broader focus on institutional fields, hence, multi-tiered SC can be considered as a part of such institutional fields (Grimm 2013). In the context of sustainability practices, the theory has been widely used to analyse and explain organizational responses to environmental and social issues (Hahn et al. 2010).

In relation to this study, institutional theory has shortcomings, which may limit its applicability. For example, government legislation influences sustainability practices by providing tangible incentives for firms to utilize some of their resources toward their stakeholders and be socially responsible and by applying penalties if actions are not taken, or standards are breached (rivers 2009). According to Hamann (2004), legislation increased the commitment to sustainability initiatives in the South African mining industry. Hence, the greater the amount of regulation, the more likely a firm to adopting socially responsible behaviours (Stone et al. 2004). This is logical and applicable in a developed country context, where satisfying legal responsibilities is a necessity of any firm seeking to be socially responsible and the mandatory nature of government legislation makes it exceptionally powerful (Aguilera et al. 2007; Yang and Rivers 2009). However, firms operating in SCs in developing countries with few laws or where laws are not enforced will be less inclined to adopt sustainability practices. In addition, legislations are only applicable to formal firms and not informal ones.

This can also be seen by NGOs that influence sustainability practices directly by participating in partnerships and indirectly through lobbying. When engaged in partnerships stakeholders work together to find ways of minimizing the environmental and social costs of development (Hamann and Acutt 2003). According to Teegen (2003), there are three requisite conditions that must exist in order for NGOs to yield social capital. These are opportunity, motivation, and ability. Opportunity refers to being in situations where the NGO can use the skills and resources available. Motivation concerns the parties' willingness to engage in social relations where there is no requirement to do so and ability relates to the capacity of the NGO to produce value. In developing countries, NGOs often do not have the financial resources of their counterparts in developed countries to implement their usage strategy. They are also financially poor and lack technical skills, which negatively impacts their ability to engage in partnerships with firms and their role of translating complex scientific issues into problems that can be understood by the public if they are to pursue lobbying strategy, respectively (Yamin 2001; Teegen 2003; Yang and Rivers 2009).

Finally, employees' power: employees are interested in human rights, equal opportunities for women and minorities, the training provided, and the health and safety conditions in the workplace (Graafland et al. 2004). Hence they are an important driver of sustainability initiatives through their actions supporting progressive labour relations policies, safety standards, and job security and creating an organizational climate for sustainability (McWilliams and Siegel 2001; Aguilera et al. 2007). In developed countries, their expectations may motivate a firm to adopt sustainability initiatives in an attempt to entice employees. However, in developing countries, employees' expectations about their employers are low, due to high unemployment, and employees are considered expandable. The workers are not only poorly paid but fear loss of employment as such are unlikely to take action that could lead to accusation by their employer (Nelson et al. 2005; Yang and Rivers 2009).

Stakeholder theory is a system-based view of the firm and its environment which assumes that all stakeholders have an intrinsic worth that should be considered

during managerial decision making (Nejati et al. 2014). The theory suggests that firms in producing externalities affect stakeholders, both internal and external to the firm, which often cause stakeholders to increase pressures on firms to reduce negative impacts and increase positive ones (Sarkis et al. 2011). As such, stakeholder theory offers a foundation for understanding why firms engage in sustainability practices as a result of stakeholders' influences and demands.

Whereas legislation requires some SMEs to establish formal programs to mitigate their environmental impacts, stakeholders can also promote or put pressure on small firms to practice sustainability. Given the growing environmental problems throughout the world and increased environmental awareness among stakeholders, it is expected that key stakeholders for SMEs would be more concerned about the sustainable practices of firms, hence favouring firms engaged in sustainability practices (Nejati et al. 2014).

According to Jenkins (2006), stakeholder theory offers a framework in which SMEs and sustainability can be better understood. Furthermore, SMEs resides within their residential areas and are closely associated with their stakeholders due to their smaller size, as such the stakeholder perspective encourage a harmonious commercial and social relationship with different stakeholders, which is an essential asset to SME owner/managers (Post et al. 2002). Additionally, the use of stakeholder theory has been shown as a helpful theoretical framework within which SMEs themselves are able to make sense of their activities (Murillo and Lozano 2006). This study aims at providing insights into the stakeholders' influence on SMEs to engage in sustainability practices in a developing economy, namely, Zambia.

Having examined the different theories that may be employed in examining stakeholders in SSCM, the following section will explore stakeholder theory in more detail from a multi-authors perspective. Stakeholder theory facilitates an examination of all different players and their relationships in a SC, whether it be economic, political, religious or social. Additionally, CSR (as sustainability was formerly called) in SMEs is mostly explained using stakeholder theory (Vo 2011), and in study by Choongo et al. (2017) conducted in same locality as this study

and in which stakeholders were relevant employed stakeholders theory. However, previous authors only considered large firms and former SMEs, whereas this study examines both formal and informal SMEs. Therefore, stakeholder theory is pivotal focus of this study investigating stakeholders and sustainability practices by SMEs in the SC.

3.7.2 Stakeholder theory

SC comprises of numerous independent members and each wanting to maximize its objectives. In additional, sustainability issues are not as a result of a single firm but the entire SC. Therefore, stakeholder theory helps to achieve synergy in a SC through the analysis and management of stakeholders. The theory facilitates a better understanding of the importance of various groups and individuals with a stake in the firm (stakeholders and non-stakeholders), who can affect or affected by the firm's decisions in pursuing its objectives.

The stakeholder concept was originally defined as those groups without whose support the organization would cease to exist. However, now, the term stakeholder often means something quite different depending on the individual using it. As such many definitions have over the years been advanced from different perspectives. For example, Foley (2005: 138) defined stakeholders as "those entities and/or issues, which a business identifies from the universe of all who are interested in and/or affected by the activities or existence of that business, and are capable of causing the enterprise to fail, or could cause unacceptable levels of damage, if their needs are not met". (Freeman 1984: 46), defined stakeholders as "any group or individual who can affect or is affected by the achievement of the organization's objectives". Accordingly, the interpretation is stakeholders are distinguished from other affected or interested parties in having both: (a) the means of bringing attention to their needs; and (b) the ability to take action if those needs are not met (Foley 2005). Some academics have proposed that the degree of importance of various stakeholders and stakeholder interests can differ with respect to various attributes, for example concerning their power or legitimacy in a specific context of a market or political system, on the level of moral development or according to a prioritization of human rights

(Garvare and Johansson 2010). Mitchell et al. (1997) used the attributes of power, legitimacy and urgency to define stakeholders.

In this study, the author wishes to extend the stakeholder definition as proposed by Branco and Rodriques (2007) based on (Freeman 1984), which is; groups or individuals whose rights are (adversely) affected by the actions of organizations such as SMEs, to include potential individuals and/or groups to the firms. Hence, the following definition will be adopted.

> *"Any group or individuals who can affect, is affected or has a potential to affect or be affected by an organization in achieving its purpose, strategy or project, internally or externally".*

The definition is intended to cover the notion that stakeholders are not immobile, but also evolve over time. Therefore, stakeholders are postulated in this study as suggested by Abor and Quartey (2010), are actors that: (a) provide essential means of support required by a firm; and (b) could withdraw their support if their wants or expectations are not met, as consequence causing a firm to fail, or inflicting unacceptable levels of damage. What is most important about the definition is that a distinction can be made between individuals and/or groups having considerable influence on a firm from those that do not. Therefore, a firm need not identify the stakeholders in order to act appropriately; the mere fact that it has stakeholders should be enough to make it behave accordingly. However, it should be distinguished that to identify a stakeholder is to interpret and understand a relationship beyond identifying an actor (Lozano 2005).

There are many types of stakeholders with heterogeneous demands and interests, posing a challenge in satisfying them all. In addition, competitive pressure has forced many firms to focus on short-term goals, making it difficult to bring long-term goals into perspective. It is also difficult to assess the impact of intangible factors such as relationships or reputation. Firms operate in complex SCs consisting of multiple members with varying goals, and whose decisions affect other SC members. Building a good relationship is one effort in managing the relationship with stakeholders. Stakeholder relationship can offer enormous

untapped potential and may be a source of competitive advantage for some firms. But yet firms do not understand the importance of the various stakeholders to sustainability as evidenced by a number of previous studies (Freeman 1984; Ginting 2015).

Stakeholder theory can also been be understood from three branches. These are, namely descriptive, instrumental approach and normative as suggested by (Donaldson and Preston 1995).

- **Normative:** this approach is concerned with the reasons why firms should take into account the interest of stakeholders. That is it focused on interpreting the function of the firm, including the identification of moral or philosophical guidelines for the operation and management of the firm (Donaldson and Preston 1995; Hasnas 2013) . According to Donaldson and Preston (1995), interest of all stakeholders are of intrinsic value, as such each group of stakeholder deserves to be for its own sake and not merely because of its ability to further the interest of some other group, such as shareholders. Therefore, under normative approach, managers of firms need to acknowledge the validity of diverse stakeholder interest and attempt to respond to them within a mutually supportive framework, since that is a moral requirement for the managerial function (Donaldson and Preston 1995; Wijnberg 2000).

- **Instrumental approach:** this is concerned with the effects of stakeholder management on firm performance. Therefore, it provides a framework for examining the connections, if any, between the practice of stakeholder management and the achievement of various firm performance goals (Donaldson and Preston 1995). According to this approach, managing stakeholders should results in the achievement of firm goals of increased profitability, growth and sustainability. Consequently, it is used for identification of the connection or lack of connections between stakeholder management and the achievement of traditional firm objectives (Donaldson and Preston 1995; Wijnberg 2000).

- **Descriptive:** this approach is used to describe and to explain specific firm characteristics, the way it works and its impact on the wider environment (Hasnas 2013). According to Donaldson and Preston (1995), it stresses the potential social and political aspects of an organization's strategic environment. Whilst Post et al. (2002) , argues that it ascribes to the potential value of the humanistic, ethical and behavioural aspects. In other extant literature, it is suggested that descriptive approach provide a description of how firms are managed and identification of relevant stakeholders (Fontaine et al. 2006; Hörisch et al. 2014). Therefore, the approach attempts to ascertain whether stakeholder's interests are taken into account by the firm or not.

3.7.2.1 Stakeholder power

Baumfield (2016), defined power as the probability that one actor within a social relationship would be in a position to carry out his own will despite resistance, or the ability of one social actor to get another social actor to do something it would not have otherwise done. Traditionally stakeholder power was viewed to reside only in the owners and/or shareholders to which managers had a fiduciary duty to manage their money in accordance with their wish. However, Freeman (1984), suggested that there are other groups interested in the affairs of the firms, to which firms have a social contract. In addition, stakeholder theory contends that organizational behaviour is conditioned by the pressures exercised on organizations by different stakeholders (Husillos and Álvarez-Gil 2008). In line with this premise, Ullmann (1985) found stakeholder power as the cornerstone of his analysis of organizational behaviour.

According to Sarkis et al. (2010), stakeholders are often responsible for increasing pressure on firms to address the negative impacts on the external environment. Stakeholders have also been categorized as primary stakeholders (Clarkson 1995) or organizational stakeholders (Henriques and Sadorsky 1999) and secondary stakeholders (Clarkson 1995). Primary stakeholders are those individuals and groups that are directly affected by the actions of the firms and at the same time can affect the performance of the firm as they engage in direct

economic transactions with the firm. Secondary stakeholders are those individuals and groups that are not directly affected by the actions of the firm and equally, they do not directly have an influence on the performance of the firm and do not usually engage in direct economic transactions with the firm (Clarkson 1995). According to Garvare and Johansson (2010), primary stakeholders have the greatest impact on the firm sustainability due to their direct access to critical resources required by the firm, whereas, secondary stakeholders have the least impact on firm sustainability since their influence is primarily through the primary stakeholders.

3.7.2.2 Stakeholder pressure

Stakeholder pressure can be defined as the extent to which the focal firm is held accountable for its actions and decisions regarding product design, sourcing, production, or distribution to stakeholders (Wolf 2014). According to (Simpson et al. 2012), stakeholder pressure is often more intense in more visible firms than in less visible firms. In addition, stakeholders view the focal firms to have a hold over the SC, and as such they are held accountable for what happens within the SC (Parmigiani et al. 2011). Consequently, focal firms (more visible firms) tend to adopt a more proactive approach and establish direct links with any agent that can contribute to the sustainability of the SC (Esty et al. 2006), and places more emphasis on the particular sustainability dimensions focused by NGOs (Schneider and Wallenburg 2012). For example, the “Dirty Laundry” report by Greenpeace about the pollution issues of lower-tier textile suppliers had exerted a lot of pressure on high-street fashion clothing retailers (Greenpeace 2011). Similarly, transparency (i.e. product visibility and end-user knowledge of the supply chain) has a positive outcome on the espousal of social sustainability by suppliers (Awaysheh and Klassen 2010). Likewise, stakeholder salience determines the degree and depth of supplier monitoring (Esty et al. 2006; Schneider and Wallenburg 2012; Gualandris et al. 2013). Instead, firms that are less visible to the final consumers tend to be more reactive, waiting for longer to set up connections with other agents in the SC (Simpson et al. 2012). Furthermore, accountability (i.e. the extents to which firms are required or expected to justify their SC decisions to stakeholders) positively affects the

impact of social/environmental capabilities on sustainability performance (Parmigiani et al. 2011). Therefore, the higher the accountability, the higher the motivation of the focal firm to invest in social/environmental capabilities (Tachizawa and Wong 2014). In conclusion, low government pressure may incentivize networks to self-regulate by using standards (Pilbeam et al. 2012).

Most often stakeholders exert pressure on the firms, to make them change their behaviour. The change could be either to raise awareness, adopt, or implement sustainability practices. However, the ultimate aim of stakeholder pressure is for the implementation of specific SSCM actions and is dependent on the type of the stakeholder exerting the pressure. For example, Meixell and Luoma (2015), found that different types of stakeholders have dissimilar influence in the SSC decisions and also different stakeholder appear to be more or less influential depending on whether the sustainability issue is environmental or social. Therefore, stakeholder pressure may result in a firm becoming aware of the stakeholder's interest in sustainability or may result in the firm adopting a sustainability goal, rather than resulting in the implementation of a practice (Meixell and Luoma 2015), see Table 3.4 for various outcomes resulting from stakeholder pressure on sustainability in SCM.

Table 3.4: Stakeholders' influence on SSC practices across varying sectors

Source	Sector	Stakeholder type	Outcome
Wong and Fryxell (2004)	Transportation	Media	Awareness by creating fear
González-Benito and González-Benito (2006)	Multi-sectorial (review of literature)	Government	Managerial environmental awareness
Carter and Dresner (2001)	Environmental project	Customer	Adoption of sustainability goals
Björklund (2011)	Transportation service		
Hall and Matos (2010)	Biofuels	Investors and NGOs	
Björklund (2011)	Transportation service	Employees	
Ehrgott et al. (2011)	Supply chain		
Haverkamp et al. (2007)	Agri-food	Government	
Sarkis et al. (2010)	Automotive	Customers and clients	Implementation of practices

Source: Author's own

3.7.2.3 Stakeholder Management

Stakeholder management is concerned with balancing the economic interests of the firms against the environmental and social concerns of stakeholders, and refers to the process by which managers reconcile their own objectives with the claims and expectations being made on them by various stakeholder groups which have an interest in a firm or will be affected by its deliverables (Cennamo et al. 2009; Farmakis 2016). According to Carroll (1991), the challenge is to ensure that the firm's primary stakeholders achieve their objectives while satisfying secondary stakeholders.

In order for stakeholder management to be successful, managers are required to; **1)** put themselves in their stakeholders' position to uncover their true interests, and **2)** explicitly take these interests into account when constructing strategic policies (Freeman 1984; Heugens and van Oosterhout 2002). However, Farmakis (2016) observed that for stakeholder management to be efficient,

manager must perform certain important functions, such as describe, understand, analyse and finally manage the stakeholders. In performing these functions, managers must know; the stakeholders, their stakes, the opportunities and threats they present to the firm, corporate social responsibilities they have to their stakeholders and the strategies, actions, or decisions that should be taken to best deal with these responsibilities. In another study, Vracheva and Mason (2015), also acknowledged fiduciary obligations that managers have to shareholders which must be met.

Most often, firms tend to pay more attention to the relationships with primary stakeholders (or direct SC as discussed in Chapter 2, page 31), that are considered crucial to value creation, while either loathing or ignoring relationships with secondary stakeholders (Vracheva and Mason 2015). Clarkson (1995) adds that the primary stakeholders exert significant influence on a firm. If one or more of these stakeholders "becomes dissatisfied and withdraws from the corporate system, in whole or part, the corporation will be seriously damaged, or unable to continue as a going concern" (Clarkson 1995: 106). As such, the firm's survival and continual success depend upon the ability of its managers to create sufficient value or satisfaction since failure to retain the participation of the primary stakeholder group would result in its failure (Clarkson 1995). According to Hillman and Keim (2001), managing relationship with primary stakeholders, results in much more than just continued participation in the firm, when effectively managed it may lead to competitive advantage.

The significance of primary stakeholders in a firm may explain the behaviour of SME owner/managers. For owner/managers, the term stakeholder is normally applied to primary stakeholder. This contrasts with managers of large corporations, where stakeholder management often applies to their interaction with NGOs and campaign groups (Schlierer et al. 2012). Furthermore, the majority of SME owner/managers focus on an 'inner circle' of stakeholders consisting of their employees, suppliers, customer and local communities. Therefore, it may be viewed that owner/managers have a clearer pragmatic picture of the value creation process for stakeholders than managers for large corporations (*Ibid*).

However, the term stakeholder management does not 'ring-out' as part of the every-day vocabulary for SME owner/managers. This could be due in part to translation into the native language and national institutional and cultural contexts that shape economic activities. As such, a better understanding of national traditions and habits would be helpful to transfer concepts such as stakeholder management and adopt a practice to national specific contexts more effective. Another approach could involve talking to SME owner/managers about responsibilities and relationships with specific stakeholder groups rather than taking a generic term such as stakeholder management (Schlierer et al. 2012).

3.7.2.4 Stakeholder management and sustainability

According to Farmakis (2016), stakeholder management links stakeholder theory and sustainability. Stakeholder management relates to stakeholder theory and facilitates sustainability by categorising the stakeholders involved and their importance in sustainability and guiding the management of stakeholders to ensure a successfully implementation of sustainability. In this regard Elkington (1997) introduced a triple-bottom-line concept, which involves a simultaneous pursuit of economic prosperity, environmental quality and social equity as a way of operationalizing sustainability.

Other scholars, such as Wheeler et al. (2003) have considered sustainability as a concept that is interwoven with the concept of stakeholder management. They contend that strategies taking into account sustainability concerns would create value for a range of different stakeholders (including future generations) while at the same time ensuring the longevity of the firm. Other authors have attempted to reflect sustainability and stakeholder management in an integrated way (Clifton and Amran 2011).

However, sustainability remains a fuzzy, elusive and contested concept (Garriga and Melé 2004). Its link to stakeholder management remains tentative and not well explored (Clifton and Amran 2011). This is especially the case when sustainability concept is understood only as a concern for the natural

environment. Accordingly, this may make it difficult for SME owner/managers make sense of the concepts, to distinguish between them, and to implement them meaningfully in their business practice (Pedersen 2006). For this reason, Schlierer et al. (2012) recommends exploring and focusing on SME owner/managers to understand and link the sustainability and stakeholder management concepts.

3.7.2.5 Stakeholder influence on sustainability practices

According to Frooman (1999), stakeholder influence strategies is the means stakeholders use to try to get what they want. He went on to suggests that the nature of the resource relationship between the stakeholder and the firm regulates the type of influence strategy that will be employed by each stakeholder. He went on further to identify the four types of stakeholder influence strategies such as direct withholding, direct usage, indirect withholding and indirect usage, which are discussed in detail later in the section.

In order to categorise the stakeholders and strategies they use to influence SMEs, Frooman (1999) identified key questions that should be used. These questions include;

a) Who are they (stakeholders)? (This question concerns their attributes).
b) What do these stakeholders want? (This question concerns their ends).
c) How do they try to get it? (This question concerns their means).

Question (c) concerns the stakeholder influence strategies and as such can be broken into two;

a) What are the different types of influence strategies?
b) What are the determinants of the choice of influence strategy?

Many answers to the question ‘who are they?’ take a form of listing and categorizing the stakeholders. Depending on the context, the list of primary stakeholders could include customers, suppliers, management, employees and shareholders (Nejati et al. 2014; Meixell and Luoma 2015). According to

Hoogendoorn et al. (2015), this group of stakeholders has the greatest impact on the firm's sustainability practices, since it has direct control to the essential means of support required by the firms. For example, customers require environmental attributes of the products purchased, employees calling for safe workplace amenities, and investors applying investment in sustainability practice screens. However, in a study by Nejati et al. (2014), examining stakeholders' influence on the environmental responsibility of MSMEs and its outcomes in an emerging economy, found that among the primary stakeholders, only employees and customers significantly influenced environmental responsibility practices of MSMEs.

The list of secondary stakeholders could include government, non-government organisations (NGOs), academics, media, fair-trade bodies, environmental pressure groups, local community, competitors, regulatory agency, second tier suppliers and trade associations (Garvare and Johansson 2010; Meixell and Luoma 2015). The secondary group of stakeholders is important because they protect and improves the firm's social legitimacy and play a decisive role in moving the firm toward engaging in sustainable behaviour (Garriga and Melé 2004; Porter and Kramer 2007). However, secondary stakeholders will be used in this study to describe actors that do not directly provide any essential means of support for the firms, but still have enough influence to warrant being considered. If their wants and expectations are profoundly violated, are able to influence primary stakeholders to withdraw essential support, thereby causing the firm to fail, or influence unacceptable levels of damage (Garvare and Johansson 2010).

The stakeholder attributes can be identified as power, legitimacy and urgency (Mitchell et al. 1997). The *power* of stakeholders may arise from their ability to mobilize social and political forces as well as their ability to withdraw resources from the firm (Post et al. 2002). *Legitimacy* may be understood in terms of normative legitimacy and derivative legitimacy (Phillips 2003). Normative stakeholders are those to whom a firm has a moral obligation, an obligation of stakeholder impartiality over and above that due to other social actors simply by virtue of being human (Olander 2007). Derivative legitimacy stakeholders are

those whose actions and claims must be accounted for by managers due to their potential to effects upon normative stakeholders (*Ibid*). *Urgency* is based on two attributes; time sensitivity, the degree to which managerial delay in attending to the claim or the relationship is unacceptable to the stakeholder; and criticality, the importance of the claim or the relationship to the stakeholder (*Ibid*). Therefore, where interests diverge and the firm is reluctant to transform its behaviour to accommodate stakeholders, power is likely to decide the outcome (Maloni and Benton 2000).

In response to the second question, 'What do they want?' The answer lies in identifying stakeholder interests and power. Stakeholders exert their influence in accordance with their interests and power. Therefore, the mere recognition that stakeholder and firm interests do diverge is as important a step toward managing stakeholders as is identifying and classifying their interests. According to Freeman and Reed (1983), stakeholder interests ranges from an equity interest to an economic interest to an interest as an influencer. For example, shareholders have an equity stake; customers and suppliers have an economic stake and NGOs, trade associations and government have an influencer stake. Stakeholder power ranges from the voting power of shareholders to the economic power of customers and suppliers to the political power of special interest groups (lobby groups, environmental groups, and human rights groups) and government. However, it is also possible that a stakeholder may have more than one kind of or both stake and power, such as shareholders who have multiple roles. An employee may at one time be a shareholder, customer, employee and even influencer, see Table 3.5 (Freeman 1984). Wood (1994) has suggested different mechanisms for categorizing the stakeholder interests, including concrete versus symbolic, economic versus social, and local versus domestic versus international.

Table 3.5: Stakeholder interest grid

Power / Stake	Formal or voting	Economic	Political
Equity	Shareholders Owners		Dissident shareholders
Economic		Customers Competitors Suppliers Debt holders Foreign governments Unions	Local governments Foreign governments NGOs Unions
Influencers	Government	Environmentalists	NGOs Government Unions Trade associations

Source: Adapted from Freeman and Reed (1983)

The response to the third question, 'How are they going to try to get it?' The answer can take the form of analysis of particular stakeholder influence strategies. According to early stakeholder theorists such as Dill (1975) and Freeman and Reed (1983), investigated the ability of stakeholders to influence the firm in terms of the nature of their stakes and the source of their power. While later theorists such as Mitchell et al. (1997) argues that the determination on how much attention management will give to various stakeholders depend on such factors as urgency, power, and legitimacy, discussed above.

Mok et al. (2015), define withholding strategies as those strategies where the stakeholder ceases to provide a resource to a firm with the intention of making the firm change a certain behaviour. For example, withhold strategies could include, employees withholding labour by striking, and creditors withholding debt financing by nonrenewal of loans. Usage strategies are when the targeted firm continues to have access to the key resource, but with constraints attached to it (Frooman 1999; Hendry 2005). Stakeholders may use direct strategies, such as manipulating the flow of resources to the firm, or indirect strategies, such as working through an ally who manipulates the flow of resources to the firm (Mok et al. 2015). Direct strategies are defined as those in which the stakeholder itself controls the flow of resources to the firm by either withholding or usage. Indirect strategies may be defined as those in which the stakeholder works through an

ally, by having the ally influence the flow of resources to the firm by either withholding or usage. For example, Greenpeace used an indirect strategy to manipulate Nestlé's SCM practices by requesting customers, as a third-party, to boycott Nestlé products. Nestlé; in contrast, employed a direct strategy towards Sinar Mas in demanding sustainable palm oil production-without third-party involvement (Wolf 2014). Hendry (2005), suggested other influencing strategies, such as communication strategy, allying with other stakeholders, multi-stakeholder dialogue, letter-writing campaigns, blockades, boycotts, litigation and lobbying legislators, stakeholders use in influencing a firm's behaviour.

In order to address the question, 'What are the determinants of the choice of influence strategy?' To answer this question Frooman developed a theory to predict which strategy stakeholders will use, based on the two-way dependence relationships that exist between and the firm and its stakeholders. For example, when the stakeholder-firm relationship is one of low interdependence, the stakeholder will suggest the ally use a withholding strategy because the stakeholder is not dependent on the firm; when the stakeholder-firm relationship is one of firm power, the stakeholder will suggest the ally use a usage strategy, because the stakeholder is dependent on the firm (and thus harm to the firm is likely also to harm the stakeholder) (Frooman 1999; Hendry 2005). This implies that primary stakeholders are likely to employee direct withholding or usage strategies to influence the firm to change its behaviour. While secondary stakeholders are more likely to employee indirect withholding or usage strategies in influencing the firm change its behaviour. Therefore, using two assumptions regarding strategy choices, a simple two-by-two typology of strategies of the four possible strategies and the circumstances under which each will be chosen is shown in Table 3.6 (Frooman 1999).

Table 3.6: Typology of influence strategies

Is the firm dependent on the stakeholder?	Is the stakeholder dependent on the firm?	
	NO	**YES**
NO	Indirect/withholding (low interdependence)	Indirect/usage (firm power)
YES	Direct/withholding (stakeholder power)	Direct/usage (high interdependence)

Source: Adapted from Frooman (1999)

3.7.2.6 Criticism of Stakeholder Theory

Critiques of stakeholder theory argue that the stakeholder theory infringes the stockholder-manager relation, which is based on the fiduciary duties owed by managers to the owners of the firms. Stockholders advance their money to managers on the condition that it will be used in accordance with their wishes. Consequently, by accepting the money under these conditions, but go on to spend it to accomplish social goals not authorised by the owner's, violates the Kantian principle (Wu and Wokutch 2015). Fiduciary duties required are honesty, adequate care for that which is entrusted and transparency and trust that the fiduciary will avoid personal gain or harm to the beneficiary (Marens and Wicks 1999).

Business is understood as an activity of maximizing long-term owner value. But the stakeholder theory rules out this activity, as well as a variety of organizational objectives such as research and development. According to stakeholder theory, there is only one type of legitimate organisation, the one that balances stakeholder benefits. However, balancing stakeholder benefits is itself an unworkable objective. By definition, an organization's stakeholders, whose benefits need to be taken into account is infinite. For a balance to be struck their number must be finite. However, stakeholder theory does not provide a guide as to how the appropriate individuals or group should be selected. Furthermore, individuals are often members of more than one stakeholder group (Sternberg 1997).

Additionally, even if the stakeholder groups and individuals could be identified and restricted to a manageable number, the stakeholder theory still fails to clarify what should count as a benefit for the purposes of balancing benefits, the benefits to be considered for evaluation and how managers should know what stakeholders consider to be benefits. Besides, even if the groups and individuals were to be identified, the divergent interests of diverse stakeholders could make it difficult for managers to know, and that benefits of one group may harm another group. Therefore, stakeholder theory also does not provide a clue as to how to rank or reconcile the normally conflicting interests of stakeholders (Sternberg 1997).

Many of the small enterprises in developing countries are informal firms of micro size with a low productivity that are born out of necessity and operate in crowded market segments with low entry barriers. Other factors such as economic restructuring, for example, privatization of state enterprises and public sector have thrown more men and women into the street who in the end find themselves in the informal employment in order to survive. The informal business their main purpose is not only economic performance by pursuing financial success; they also face many challenges and lack capacity to improve their social and environmental performance, which is central to the stakeholder theory (de Kok et al. 2013; La Hovary 2013).

3.7.2.7 Contribution of stakeholder theory

This study will contribute to literature on stakeholder theory by facilitating a way of understanding various groups and individuals that may influence engagement of sustainability practices by SMEs and how these SMEs manage their stakeholders. Furthermore, by considering the characteristics of SMEs in developing countries as outlined above, stakeholder theory offers the most interesting insight and penetrating analysis of sustainability practices among SMEs. The researcher is of the opinion that the stakeholder approach will facilitate to the development of the framework, which could be used for assessment of SMEs' sustainability practices and identification of stakeholders influencing SMEs into practicing sustainability.

3.8 Frameworks

There are many frameworks that have been developed to try and address sustainability concerns. The focus in this study is to develop a framework that helps the policy-makers to analyse and better understand the SME environment with regard to sustainability practices in a mining SC. In doing so, the study will examine the SME suppliers' sustainability practices as influenced by stakeholders, the drivers, the barriers and the mechanism for mitigating them to increase their sustainability uptake. Therefore, to construct a conceptual framework that addresses the research objectives, the following key frameworks are discussed. These are Seuring and Müller (2008), Akamp and Müller (2011) and Carter and Rogers (2008)'s frameworks.

3.8.1 Seuring and Müller's framework

Seuring and Müller (2008)'s framework is largely derived from the literature review on SSCM taking into account 191 papers from 1994 to 2007. Thus, the framework is a summary of research in SSCM field comprising three parts; the triggers for SSCM, supplier management for risks and performance and SCM for sustainable products. From a methodological perspective, their literature review can be comprehended as content analysis, where quantitative and qualitative aspects are mixed to assess structural (descriptive) as well as content criteria (Brewerton and Millward 2001).

This framework is of interest to this study because it provides approaches that a firm may use in aligning suppliers with regard to sustainability, thus, extending the sustainable behaviour to suppliers. In line with the value of the product comes the environmental and social burden incurred during different stages of production. As such, focal firms of SCs might be held responsible for the environmental and social performance of their suppliers. Therefore, these firms are likely to come under pressure from stakeholders, e.g. NGOs (Carter and Jennings 2002; Kovacs 2004). In this study, the focus is on how the focal firms pass this pressure on to suppliers.

Seuring and Müller (2008) propose a framework, which analyses triggers for SSCM and distinguishes two norm strategies. These are supplier management for risks and performance and supply chain management for sustainable products. The triggers for SSCM being external pressure and incentives from customers (who are of great importance as they accept the final product and service), governmental control (e.g. local municipalities, national or multi-national governments) and stakeholders. When pressured the focal company usually passes the pressure on to suppliers. However, there are barriers and drivers which impede or support the cooperation with suppliers, such as legal demands/regulation, customer demands, response to stakeholders, competitive advantage, environmental and social pressure groups and reputation loss (Bowen et al. 2001; Carter and Dresner 2001; Carter and Jennings 2002).

Owing to competition and increased outsourcing and in response to pressure and incentives, a number of companies have introduced supplier evaluation schemes which integrate environmental and social criteria (Trowbridge 2002; Koplin et al. 2007; Beske et al. 2008), which has a double aim. The first objective is to avoid risks related to all three dimensions of sustainability (Cousins et al. 2004; Michelsen et al. 2006; Teuscher et al. 2006). According to Handfield et al. (2005), a large and increasing amount of environmental risk can be found in their firm's SC, particularly the SME suppliers. Supply risk originates from individual suppliers' failures and focal firm's inability to meet its customer requirements, resulting in a supply disruption of operational processes (Zsidisin 2003). The second objective aims at improving the overall SC performance, where frequently the focus has been on the relationship between environmental and economic performance (Hervani et al. 2005; Zhu et al. 2005; Vachon 2007).

The framework also addresses the method a firm may employ to achieve sustainable products aimed at improving environmental and social quality, and to satisfy customers and gain a competitive advantage (Bowen et al. 2001; Goldbach et al. 2003; Kovacs 2004). However, Bowen and Lamming (2002) suggests a joint initiative would be helpful in implementing a product based green supply. The cooperation with suppliers should not just extend to first-tier suppliers (Frohlich and Westbrook 2001), as entire SC from raw material to final the

customer has to be integrated (Seuring and Ossietzky 2001; Kogg 2004). See Figure 3.3 for details.

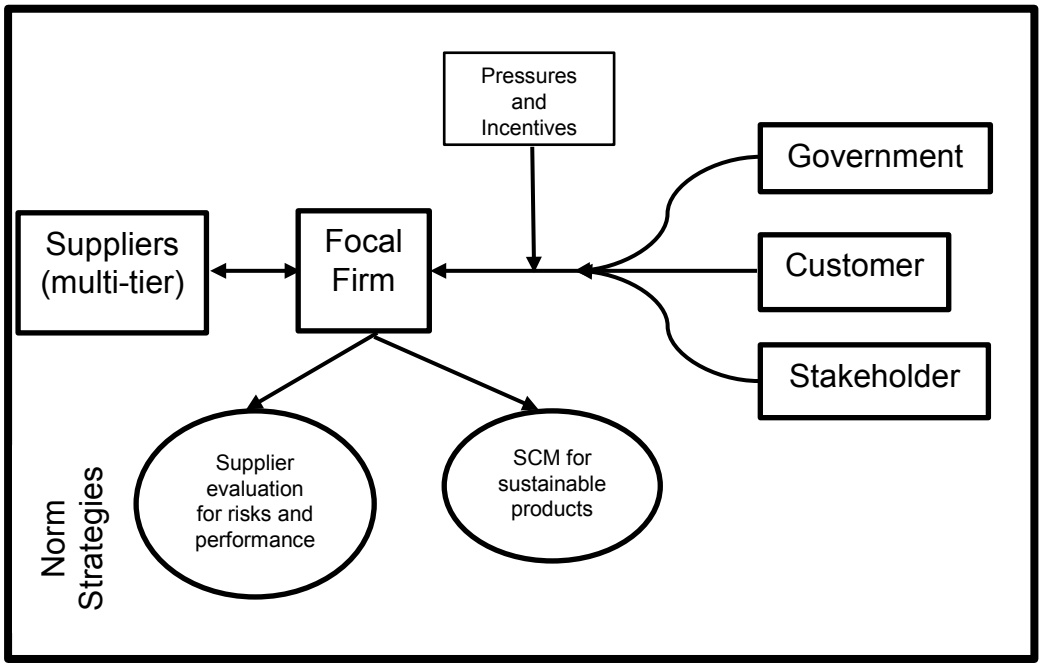


Figure 3.3: Triggers for sustainable supply chain management

Source: Seuring and Müller (2008)

However, Seuring and Müller's framework only considers a network of formal firms obtaining in developed countries. Developing countries such as those from sub-Sahara Africa have SC networks comprising of both formal and informal suppliers. In fact, the SMEs sector in these Sub-Sahara developing countries are dominated by informal SMEs that significantly contribute to their economic growth. Therefore, there is a need for an integrated framework that incorporates all the players (formal and informal) in the SC network if sustainable development is to be realized.

3.8.2 Akamp and Müller's framework

This framework was based on data from 137 German large buying firms, and investigated which measures of supplier management in developing countries could improve supplier performance and buyer satisfaction using structural equation model and using Partial Least Squares (PLS) for analysis. Supplier

selection and evaluation, supplier monitoring, supplier development, and supplier integration were independent variables and supplier performance and buyer satisfaction the dependent variables. Their results indicated that cooperative activities such as supplier development and supplier integration are effective while supplier monitoring showed positive influence on supplier performance.

This framework is of interest to this study because it analyses the management of suppliers in developing countries by focusing on supplier development. The variables that Akamp and Müller investigated are among the variables being investigated in this study.

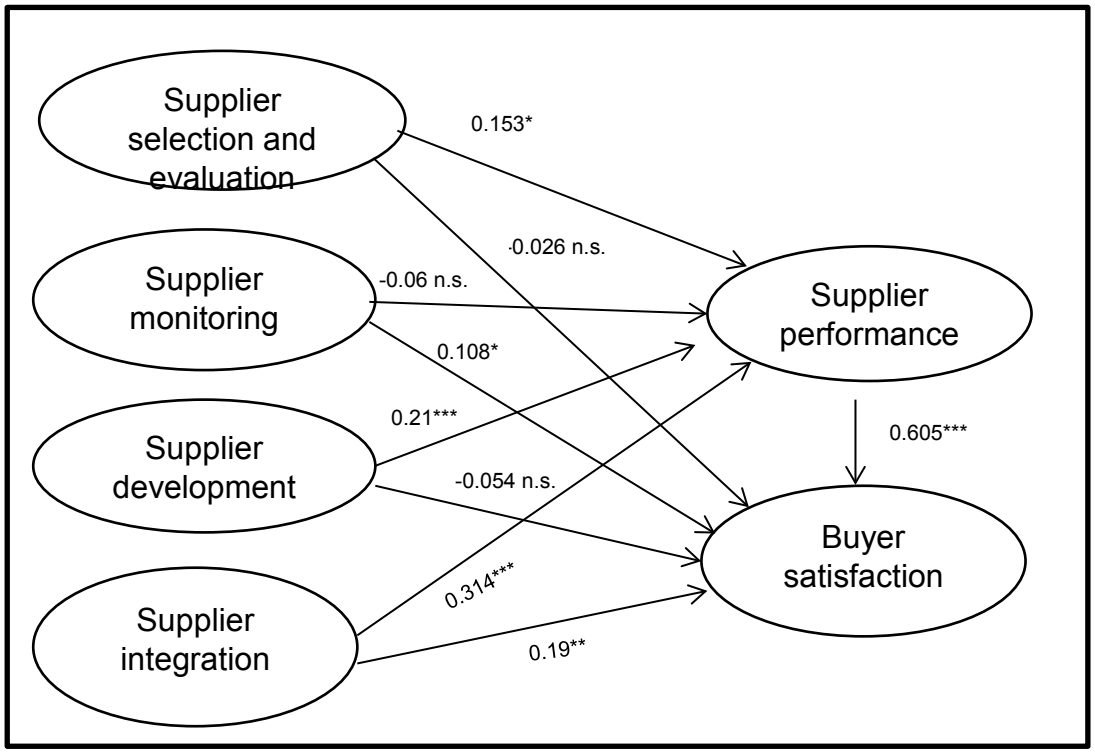
Multinational corporations face sourcing challenges in developing countries caused by ecological, social and qualitative gaps between the desired and the provided performance of their suppliers (Hsu and Hu 2009). According to Large (2006b), the success of an adequate supplier management is measured by supplier performance and buyer satisfaction. While supplier selection is aimed at reducing the risks in potential supply relationships and choosing suppliers who best fulfil the requirements of the manufacturer (Oly Ndubisi et al. 2005), and is largely dependent on adequate selection criteria (Lemke et al. 2000). Supplier monitoring is concerned with the regular examination of supplier capacity so as to provide information that assist in uncovering supplier deficits at an early stage so that counteractive measures can be initiated (Kopfer et al. 2005; Large 2006a). Supplier development encompasses any efforts of a buying firm with its supplier to increase the performance and/or capabilities of the supplier and meet buying firm's supply needs (Krause and Ellram 1997).

The corporate environment in developing countries is characterized by high uncertainty due to unstable governments and policies. Corruption and legal uncertainty, labour-intensive production processes, and a lack of investment in transport infrastructure, corporate equipment, and new technologies all contribute to country risks. In addition, educational level of the population is lower with higher underemployment levels than in industrializing countries, child labour is common, and the society is often more divided in many ways. All these circumstances may influence the performance of local suppliers, regarding

product quality and delivery reliability, and thereby affecting buyer's economic performance (Durth et al. 2002; Proff 2004; Andersen 2005; Delavallade 2006).

In conclusion, supplier selection and evaluation, supplier development, and supplier integration are appropriate constructs for improving supplier performance and need to be practiced in cooperation with suppliers in developing countries. The results showed that supplier development and supplier integration impact supplier performance the most. However, supplier selection and evaluation and supplier monitoring are important components of supplier management that need to be complemented by supplier development and supplier integration.

Supplier integration and supplier monitoring are the only supplier management activities that have a weakly positive influence on buyer satisfaction. An integral influence on buyer satisfaction comes directly from supplier performance (Akamp and Müller 2011). Therefore, the results confirm the significance of adequate supplier management in order to guarantee a satisfactory sourcing from developing countries. See Figure 3.4 for details.



n.s. not significant
* level of significance p 0.1
** level of significance p 0.05
*** level of significance p 0.01

Figure 3.4: Akamp and Müller's framework

Source: Akamp and Müller (2011)

3.8.3 Carter and Rogers' framework

This framework contributes to the framework development for this study by introducing the concept of sustainability to the field of SCM and demonstrated the relationships among environmental, social and economic performance within an SCM context.

In developing the framework, Carter and Rogers (2008) used a conceptual theory building approach to synthesize the literature and incorporate complementary theoretical bases to introduce a theoretical framework of sustainability as it is applied to the SC. At the centre of this conceptualization is Elkington (1997) triple bottom line-the intersection of environmental, social, and economic performance, which conveys a strong message about the meaning of sustainability to an

organization. Furthermore, it is suggested that firms should identify and engage in social and environmental activities which will not harm but assist in enhancing economic performance, hence a question mark around the term “good” which labels the intersection of social and environmental components but omits the economic component of the triple bottom line (Carter and Rogers 2008). Therefore, triple bottom line explicitly directs managers to identify those activities which improve economic performance and dictate the avoidance of social and environmental activities which fall outside of the intersection (Crum et al. 2011). Furthermore, Carter and Rogers (2008) suggested that engaging in sustainability, and SSCM in particular, is not discretionary, but rather a requirement.

The examples of the activities that fall within the triple bottom line include cost savings associated with reduced packaging and more effective design for reuse and recycling; lower health and safety costs, as well as reduced turnover and recruitment costs due to safer warehousing and transport and improved working conditions. Others include reduced labour costs in the form of higher levels of motivation and productivity and less absenteeism resulting from improved working conditions; lower costs, shorter lead-times, improved product quality, and lower disposal costs resulting from the implementation of ISO 14000 standards and the use of design for disassembly and reuse; and an enhanced organizational reputation, which can make a firm more attractive to both customers and suppliers (Carter and Rogers 2008: 370-1).

In addition, Carter and Rogers identify four supporting aspects that facilitate SSCM, such as strategy – holistically and purposefully identifying individual SSCM initiatives which align with and support the organization’s overall sustainability strategy; risk management, including contingency planning for both the upstream and the downstream SC; an organizational culture which is deeply ingrained and encompasses organizational citizenship, and which includes high ethical standards and expectations (a building block for SSCM) along with a respect for society (both within and outside of the organization) and the natural environment; and transparency in terms of proactively engaging and communicating with key stakeholders and having traceability and visibility into

upstream and downstream SC operations (Crum et al. 2011). For detail see Figure 3.5.

In conclusion, the framework provides a starting point for a common understanding of SSCM among SC managers since most SC personnel have different viewpoints of what sustainability really is. The framework also recommends a business case for the managerial adoption and integration of SSCM as it explicitly accounts for long-term economic performance. Furthermore, the framework offers SC managers a starting point for what is needed to develop SSCM practices in their organizations.

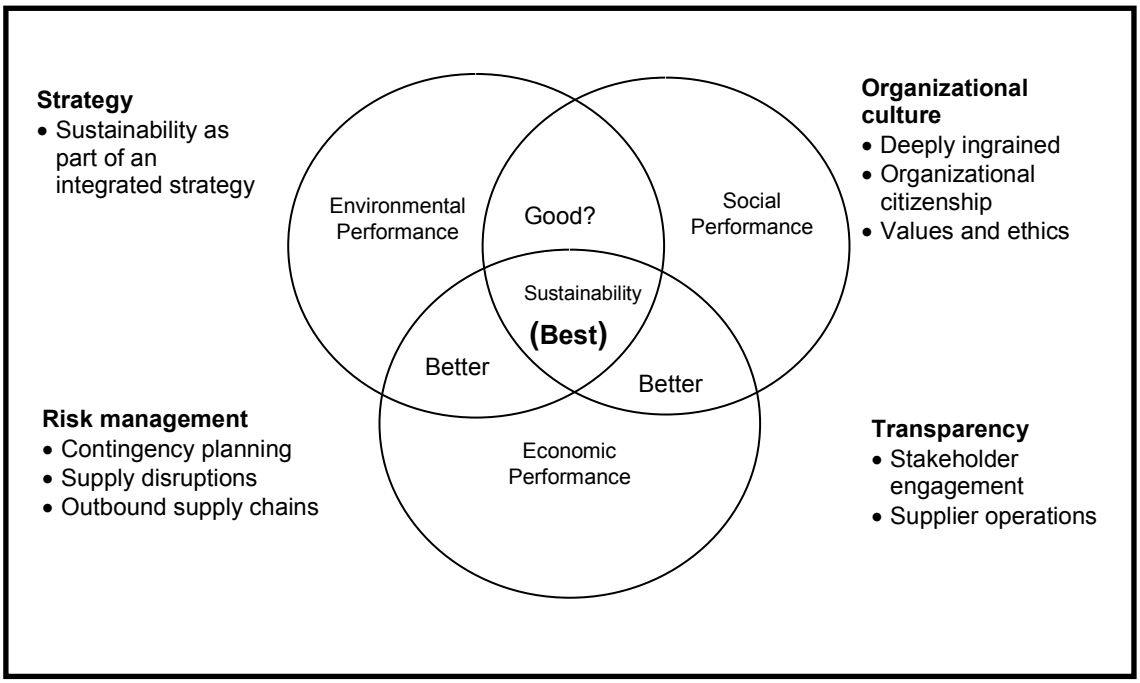


Figure 3.5: Carter & Rogers' framework

Source: Carter and Rogers (2008)

3.9 Research Gap

The literature review has discussed sustainability aspects and how SMEs could be engaged and which strategies are the best to use. However, SMEs in developing countries face many challenges when engaging in sustainability practices imposed by their focal firms and equally have difficulties in transferring these sustainability requirements to their own suppliers. In Zambia, the majority

of the private businesses are SMEs, either formal or informal. However, there have been no studies conducted to determine their sustainability practices as demonstrated in Section 2.5, page 27, thereby, warranting the need for a study to bridge this gap.

Most research in SSCM has focused on large organizations and formal sector SMEs but have ignored the informal sector that forms part of many SC in less developed countries (Vo 2011; Grimm 2013). The few studies that have been conducted on SME suppliers in implementing sustainability practices have been conducted in the western developed and developing Asian countries, for example (Meqdadi et al. 2012). The economic structures in these countries contrast that existing in developing sub-Sahara African countries, which are inundated with large numbers of informal SMEs. In addition, some formal SMEs choose to remain informal but maintain beneficial business links with the formal sector, and significantly contribute to the economic growth (Baruah 2004; Azmat and Samaratunge 2009; La Hovary 2013). Therefore, despite the significant contribution the SMEs contribute to the growth of the economy in these developing countries and sustainability initiatives in developed countries, they have received less attention in developing countries (Azmat and Samaratunge 2009). Furthermore, the fact that the studies have been conducted in developed and developing Asian countries makes the existing SSCM frameworks fall short to be used to study SMEs' sustainable practices in these less developed sub-Sahara countries.

The majority of entrepreneurs in developing countries are in business due to the economic situation that has forced them as a means for survival (Azevedo et al. 2012; La Hovary 2013). As a result, their primary goal is economic and not environmental or social performance. A majority of the sub-Sahara African developing countries, corruption and political policy instability are rife (Delavallade 2006). Consequently, the theories developed in developed countries do not fit the perceived reality because the perceived reality is coming from government statistics and our interpretation on how they operate is far from the reality. Therefore, there is need to collect primary data from key stakeholders to establish if the perceived gap exists. Once the perceived gap is proven from

real empirical data, develop a framework that shows various stakeholder influences on the SMEs in the SC as they engage in sustainability practices.

3.10 Development of a Conceptual Framework

In order to develop a framework for this study the following key works were integrated with stakeholder theory. That is the work by Seuring and Müller (2008), Akamp and Müller (2011) and Carter and Rogers (2008). The proposed framework is aimed at the following; first, to facilitate understanding on how focal firms and stakeholders engage and/or influence SME suppliers in sustainability practices. Second to facilitate understanding of how these SMEs extend the sustainability requirements imposed by their stakeholders on them to their own suppliers (second tier), who may be formal or informal SMEs. Third, to propose the mechanisms for mitigating the barriers SMEs face when engaging in sustainability initiatives and how to motivate them to engage in sustainability initiatives.

The selected frameworks presented above (Figures 3.3 to 3.5) were chosen from among the many more that are available as they addressed some aspects being investigated in this study. Since none of them is 100 percent satisfactory as a 'ready-made' template for the purpose identified as leading research gap to be fulfilled, i.e.; sustainability practices by SMEs in the least developed countries, it is necessary to develop an integrated framework that can adequately address the research question.

In addition, most, if not all these frameworks have been developed for formal economies of western developed countries and Asian developing countries. When analysing the way in which they were written and the parameters and performance indicators targeted, it becomes apparent that most of these frameworks are intended for formal companies. They also take for granted that the countries in which they operate have a clear set of national or sector/industry-specific policies, norms and standards for the companies to comply to, which is not the case when addressing SMEs in the developing countries, whose economies are mostly informal. Below is the conceptual framework, Figure 3.6.

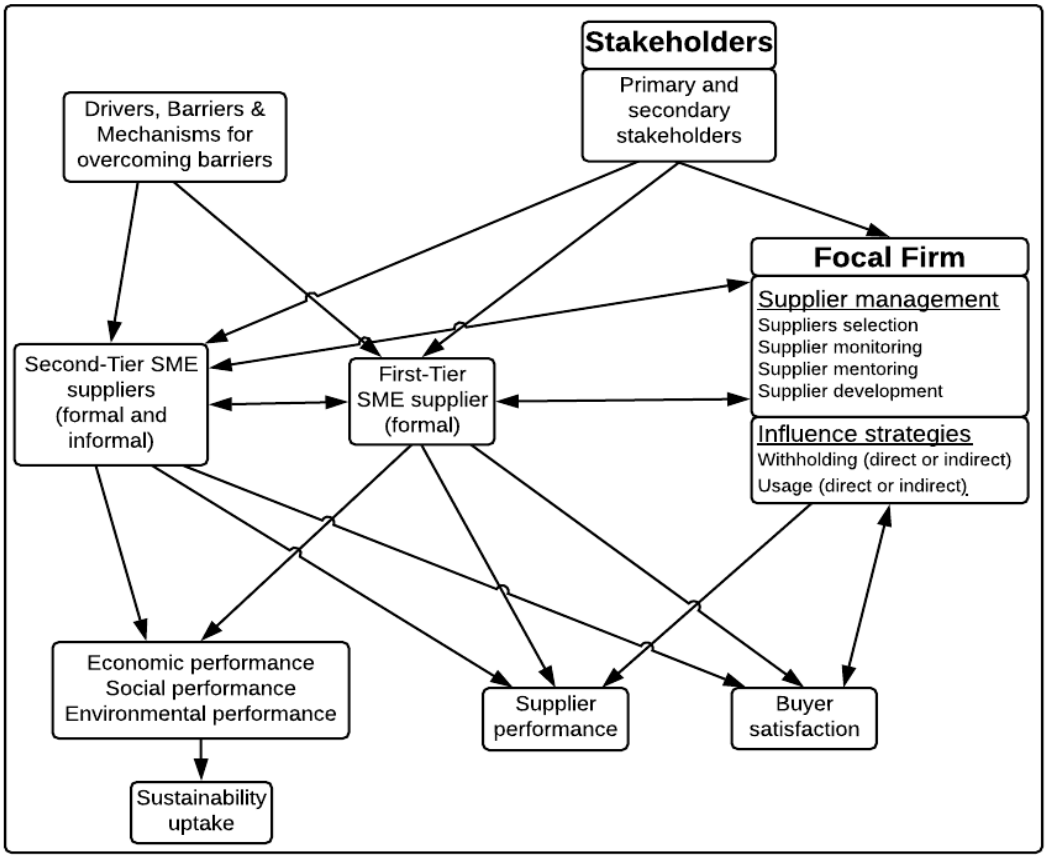


Figure 3.6: Conceptual research framework

Source: Seuring and Müller (2008), Akamp and Müller (2011), Carter and Rogers (2008), and Author's own work (see Figure 2.9 & 2.10**)**

The framework proposed by Seuring and Müller (2008) merit the use in that they perceived sustainability in SCM and also recognised the external barriers and drivers which they termed as triggers for SSCM. Their framework can also be viewed as a standard model with stakeholder like the government putting pressure on focal firms, who then monitor the behaviour of their suppliers. However, it does not address the second-tier suppliers that are prevalent in developing countries. Therefore, it would be difficult to use the framework in its current form in assessing sustainability practices of SMEs.

Akamp and Müller (2011) recognised the challenges the suppliers in developing countries face. Their framework provides the base for investigating which measures of supplier management could improve supplier performance and buyer satisfaction. Therefore, it merits consideration with regards to how buyers could assist suppliers to develop their production facilities and processes.

Carter and Rogers's (2008) framework merits the use in that it introduces the concept of sustainability in the field of SCM and demonstrate the relationship among environmental, social and economic performance within an SCM context. Their framework proposed that sustainability can only be attained by the integration of environmental, social and economic criteria that allow a firm to achieve a long-term economic viability.

The proposed framework is therefore strongly linked to all of the above three frameworks. However, it draws most of the ideas from Seuring and Müller's framework, as such, it could be perceived as an extension of their framework. The aspects of the variables and the link to buyer satisfaction and supplier performance are drawn from Akamp and Müller's framework, while that of economic, social and environmental performance are drawn from Carter and Rogers' framework. The other features that have been incorporated into the proposed framework were drawn from Chapter 2, Figure 2.9, page 41 and Figure 2.10, page 43, i.e., second tier formal and informal SME suppliers and the various stakeholders. The aspects of barriers and drivers were drawn from literature view, Chapter three, Section 3.6, page 70. Sustainability uptake was added because the aim of the study is also to investigate if pressure from stakeholders on SMEs impacts their sustainability uptake, that is either all or one or two dimensions of sustainability.

The arrows in the framework represent the influence in some cases and outcome in some other cases. For example arrows to the dimensions of sustainability and arrows to sustainability uptake represents an outcome, while the rest of the arrows represent influences. The thickness of the arrows represents the strength of the influence, however, this will be shown after data collection and analysis.

Therefore, before presenting the proposed framework, it is appropriate to revisit the research objectives and research questions in order to refine them based on the literature reviewed so that they are in tune and to facilitate the achievement of the intended research outcomes.

The research objective of the study is as follows;

- To develop a detailed stakeholder framework that helps to analyse and better understand the SME environment with regard to sustainability practices in the mining industry in Zambia.

The primary research questions are as follows;

- Do SME suppliers in the mining supply chain engage in sustainability practices?
- How are SME suppliers influenced by stakeholders when adopting sustainability practices in the mining SC?

This primary research question is further split into seven (7) sub-research questions that should help to adequately achieve the research objective, these include;

a) What are the current sustainability practices among the SME suppliers in Zambia?
b) Who are the stakeholders and what do they expect from SME suppliers in the mining SC?
c) How do SME suppliers extend sustainability requirements imposed by their stakeholders to their suppliers?
d) How do stakeholders engage SME suppliers in sustainability initiatives?
e) What barriers do SME suppliers face when adopting sustainability practices?
f) What are the mechanisms for overcoming the barriers SME suppliers face in implementing sustainability practices?
g) How can SME suppliers be motivated to practice sustainable development?

However, in this study the focus is SMEs' sustainability practices, and as such only the barriers and drivers pertaining to SMEs and the role of stakeholders are to be considered. The suppliers' performance and buyer satisfaction, although important to sustaiability practices they are not to be examined in this study. They were used as part of construction tool. The aim of this study is to provide the

policy-makers with a better decision making support tools for examining whether SME suppliers in the mining SC engage in sustainable practices, their challenges and motivation and the stakeholders that influence them. Consequently, the area of focus for this study is the first-tier and second-tier suppliers, the barriers and drivers and sustainability performance as influenced by the stakeholders that includes the focal firms, as shown in Figure 3.7. Therefore, the conceptual framework was refined further into a proposed framework, which was further refined after fieldwork. See Figure 3.7 for the proposed framework.

The above sub-questions were inserted in the proposed research framework to show the areas each address. In addition, the numerical sequencing used in Section 1.3, page 7, was changed to alphabetical sequencing for ease of use and referencing within the framework as shown below. E.g. RQ1 became (a), RQ2 became (b) and RQ6 became (f).

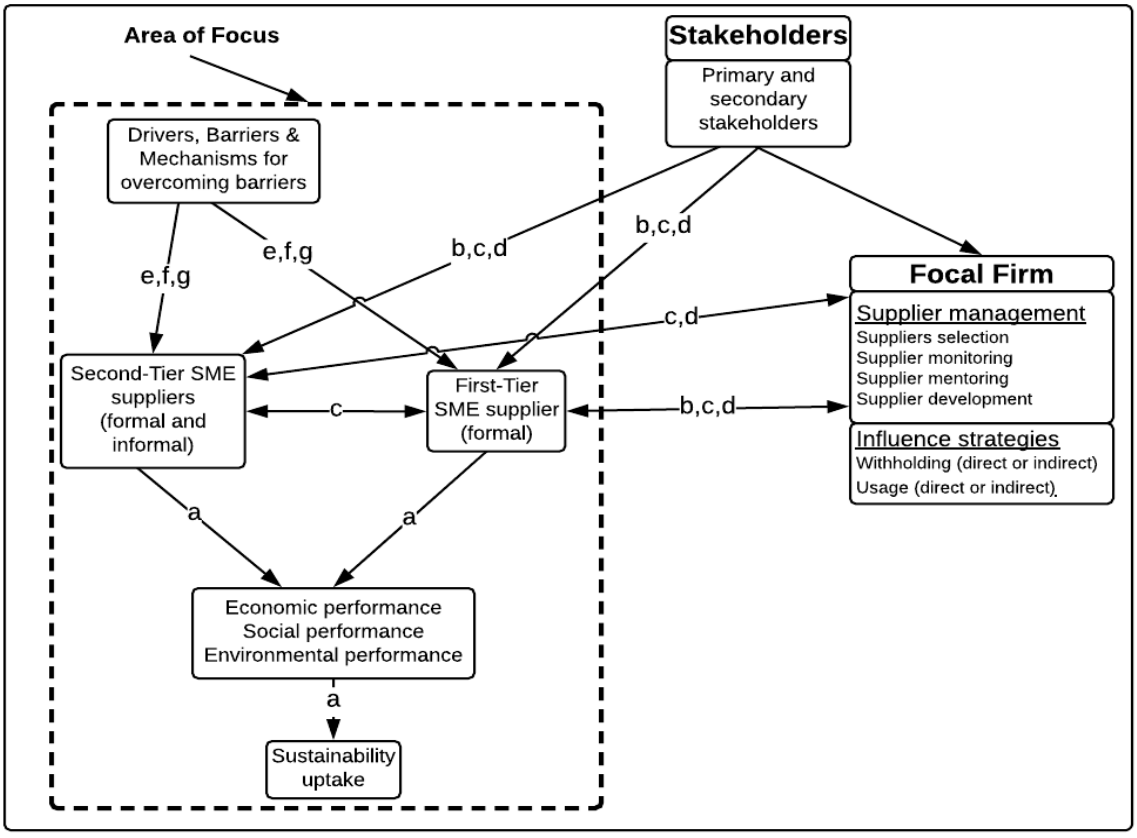


Figure 3.7: Proposed research framework

Source: Seuring and Müller (2008), Akamp and Müller (2011), Carter and Rogers (2008), & Author's own work (see Fig. 2.9 & 2.10)

3.11 Summary

This chapter has discussed the concepts of SCM, sustainability, SSCM and how they are linked. SCM focus on improving the long-term performance of individual companies and the SC as a whole, whereas sustainability focuses on individual companies on its responsibilities within its boundaries. This review is necessary for the good level of understanding a true measure of sustainable performance. Since a company need to look outside its boundaries to the expanded sustainability efforts of its entire SCs, thus, SSCM, which extends the concept of SCM by integrating the three dimensions of sustainability.

This chapter also discussed the sustainability practices and how they are transferred to SME suppliers and how in turn the SME suppliers might transfer the sustainability requirements to their own suppliers, along with the barriers and drivers they face when engaging in sustainability practices. Since no study has been conducted on sustainability in Zambia, a review of transfer strategies and the general challenges SMEs face in other countries is important for a good level of understanding and developing an appropriate framework.

Chapter 3 also reviewed multiple research frameworks, including those of Seuring and Müller (2008), Akamp and Müller (2011) and Carter and Rogers (2008). This review was necessary in order to establish a strong theoretical foundation on which to build the framework for this study. Finally, the output of this chapter was the identification of a research gap in the literature and concluded with a discussion of the development of the proposed framework for the study. The next chapter presents the methodology of this research.

4.0 RESEARCH METHODOLOGY

4.1 Introduction

The aim of this chapter is to develop a methodological framework that will be used to investigate sustainability practices of SME suppliers in Zambia's mining industry. The chapter begins with a discussion on the data that will be needed to address the research question by analysing the sub-questions leading to the research design, research philosophy and the associated methods of data collection and analysis. As such, Easterby-Smith et al. (2012) states that the methodology addresses the questions of how can a researcher generate knowledge about a social world and what are the methods that can be utilized to gain such knowledge. The rest of the chapter is structured as depicted in Figure 4.1.

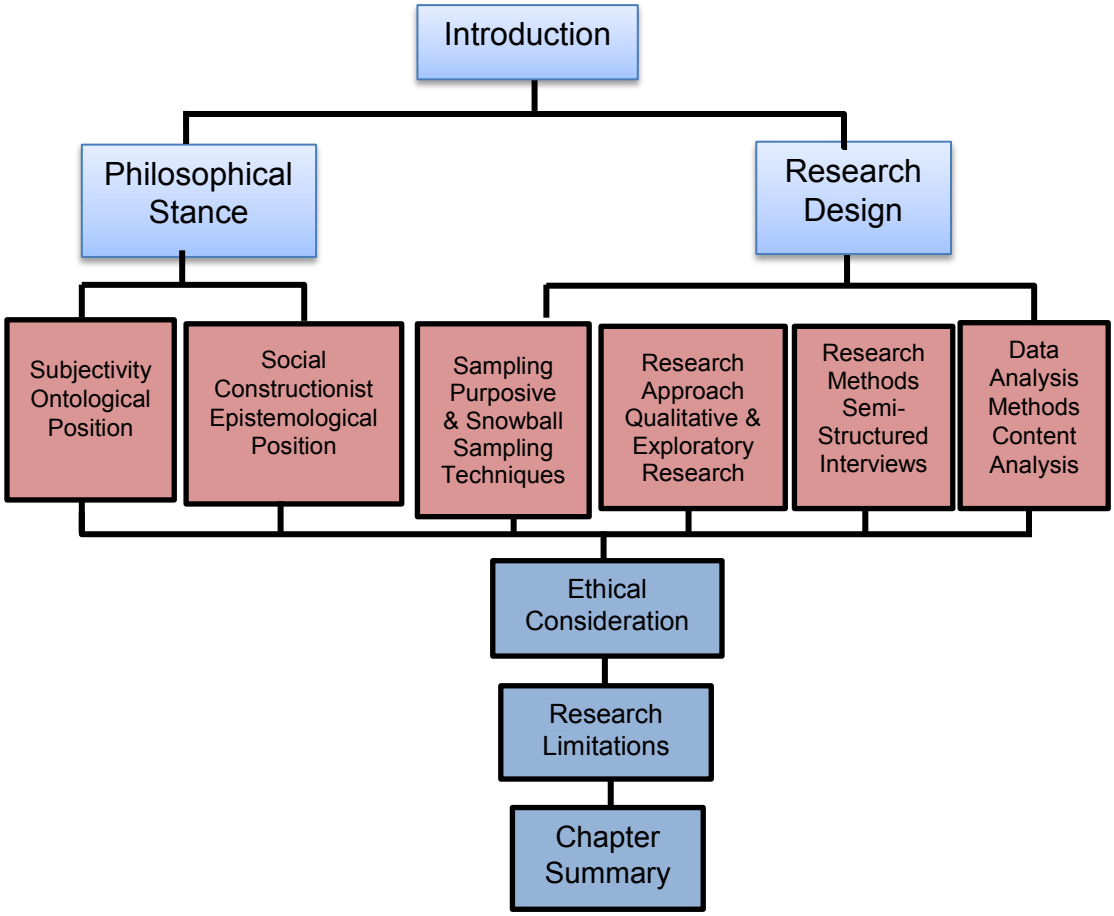


Figure 4.1: The graphical presentation of the chapter

Source: Author's own

4.2 Research Approach and Design

The research design is “the plan and the procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis” (Creswell 2009: 3). Basically, the plan is approximately how the researcher will go around answering the research query in order to deliver the research objective. The research question will subsequently inform the choice of research approach, philosophical position, and the techniques for data collection, analysis and interpretations.

The approach followed in this study is adopted from Pritchard (2002), where the data needed to address the research objective and the most suitable method for gathering the data are first identified, which then informs the philosophical position. According to Chell and Pittaway (1998), the choice of research paradigm hinges on the type of data to be obtained. Thus, the approach is the reverse of the research onion approach proposed by Saunders et al. (2009). In this research, the researcher used the research questions to identify the data needed to answer the research questions. With the data needed identified, the researcher then used the information to determine the suitable research methodology and methods and finally the philosophical stance under which the methodology belongs. The procedure is explained in the following section.

4.2.1 Identification of data

The integration of the previously discussed theoretical and conceptual aspects in (Chapter 2 and 3) into one research framework provide an overall understanding of the focused research phenomena and guidance for the subsequent choice of the research approach. Figure 3.7, page 116, illustrates the proposed framework, and further assigns the research sub-questions to be addressed, thereby, highlighting the foci of the research studies.

The proposed framework consists of stakeholders, focal firms, tier-1 SME suppliers (direct suppliers) and tier-2 SME suppliers (sub-suppliers), see Figure 2.5, page 31, for details. It has been shown from the review of literature that stakeholders often exert pressure for social and environmental sustainability on

focal firms (MNCs), and expect them to control the social and environmental behaviour of their suppliers by extending the sustainability practices to the suppliers. The suppliers are in turn expected to transfer the sustainability practices to their suppliers as discussed in Section 3.5, page 52. However, the literature review on SMEs has shown that the direct suppliers may have challenges transferring the sustainability practices and later monitoring and controlling their suppliers due to reasons discussed in Section 3.6.1, page 71. The literature review has also shown that there are more stakeholders than the focal firms that may be better positioned to control the social and environmental behaviour of SME suppliers and sub-suppliers such as the local community. However, there is little to no research on sustainability practices by SME suppliers in developing sub-Saharan countries. Thus, this study seeks to bridge this gap. As such, the research objective of the study is:

> *To develop a detailed stakeholder framework that helps to analyse and better understand the SME environment with respect to sustainability practices in the mining industry in Zambia.*

In order to achieve the research objective thereby bridge the gap identified, the researcher will be answering the following primary research questions:

- *Do SME suppliers in the mining supply chain engage in sustainability practices?*
- *How are SME suppliers influenced by stakeholders when adopting sustainability practices in the mining supply chain?*

The research questions are sub-divided into seven research questions. The sub-division of the primary research questions is necessary in order to adequately deliver the research objective in line with the research aim, to provide the decision-makers (government, large multinational mining corporations) with a better decision-making support. The following are the sub-questions:

RQ1) What are the current sustainability practices among the SMEs in Zambia?

RQ2) Who are the stakeholders and what do they expect from SME suppliers in the mining SC?

RQ3) How do SME suppliers transfer sustainability requirements imposed by their stakeholders to their suppliers?

RQ4) How do stakeholders engage SME suppliers in sustainability initiatives?

RQ5) What barriers do SME suppliers face when adopting sustainability practices?

RQ6) What are the mechanisms for overcoming the barriers SME suppliers face in implementing sustainability practices?

RQ7) How can SME suppliers be motivated to practice sustainable development?

However, in order to comprehensively address the primary research questions and be able to operationalize the framework, it is important to consider the data that will need to be collected to address each sub-question. This will, in turn, inform the selection of appropriate research methodology as discussed below, and summarised in Table 4.1, page 128.

RQ1) *What are the current sustainability practices among the SME suppliers in Zambia?*

In order to deliver the objective, i.e. develop a stakeholder framework, it is imperative to first establish the current sustainability practices of SMEs. Hence, RQ1 has been formulated to elicit data for determining whether the SMEs in Zambia practice sustainability.

According to Jiang (2009), a firm that practices sustainability is likely to adopt a code of conduct that guides its actions. Codes of conduct are written requirements that stipulate operations issues such as safe and hygienic working conditions, child labour is not used, working hours are not unreasonable, and actors are paid living wages. Therefore, the type of data needed to establish a firm's current sustainability practices may include; health and safety programs, employee incentives, medical schemes, environmental regulations, corporate citizenship, community involvement, work life balance, environmental

management, communication mechanisms, reporting procedures, and codes of conduct.

The practical method for collecting the above data would be a survey questionnaire, where the participants are provided with a list of questions and asked to 'tick' the appropriate answer among the choices provided. However, it has been acknowledged from the literature review that SMEs have no written sustainability policies, they tend not to use many sustainability instruments due to lack of specialized staff and the time needed to produce these special reports (Ibrahim et al. 2012). They have limited formal education, and do not appreciate the value of research and as such, they do not like participating or providing data needed for the research (Chisala 2008; Azmat and Samaratunge 2009). SMEs are also known to be of low visibility and perceive reporting on sustainability actions to prove their social engagement to have no much value (Demuijnck and Ngnodjom 2013). They respond to the urgent needs and concerns of their communities without necessarily framing this in sustainability terms or describing it as such. As such their social and environmental activities are less formal, a situation which makes their sustainability practices unidentifiable and more difficult to observe (Ibrahim et al. 2012).

The above reasons make the use of the questionnaire for data collection a less suitable instrument because it may not yield positive results. The response rate is likely to be very low and the participants may have a challenge understanding some vocabulary that relate to sustainability and as such may leave many questions unanswered.

To overcome these potential drawbacks and at the same time gain the confidence of participants (the SME owner/managers), it may be necessary to interact with the participants and interview them. This would allow the researcher to explain the sustainability terms, and other unfamiliar vocabularies, and also ask the respondents to provide evidence to support their claim if they engage in sustainable practices.

Therefore, the methodology for this question would be semi-structured interviews and archival data, and the respondents being the SME owner/managers.

RQ2) *Who are the stakeholders and what do they expect from SME suppliers in the mining SC?*

To be able to develop a stakeholder framework, it is important to know the relevant stakeholders for SMEs and their expectations. RQ2 is in two parts. It first focuses on identifying and prioritizing the relevant stakeholders. The second part focuses on identifying the stakeholder expectations from SMEs.
The stakeholders for SMEs can be identified from the literature review and from stakeholder analysis conducted in Chapter 2, and in particular Figure 2.10, page 43 listing the stakeholders. These include customers, suppliers, government, NGOs, trade associations, local community, focal firms, media, regulators and owner/managers. However, to establish the stakeholders relevant to the SMEs, it would be cardinal to 'sit down' with the SME owner/managers and interview them to find out which stakeholder really matters the most to them.

The factors to consider in identifying and prioritizing the stakeholders may include the power of the stakeholder to influence in specific initiative and whether it is significant or relatively limited; the proximity of the stakeholders, and whether their role is direct and of primary relevance or it is indirect and of secondary relevance to the initiative; the urgency of the stakeholder involvement, and whether it is urgent in terms of time and criticality.

The type of data needed may include assessment and collaboration practices, training, awareness-raising workshops, corrective action plans, stakeholder collaboration, efficient links of communication, the list of stakeholder interest.
This data can best be obtained from the stakeholders (NGOs, government, trade associations, and focal-firm and SME owner/managers) by reviewing their documents. However, the stakeholder list comprises of professionals and SMEs of limited education, therefore, the best and efficient data instrument would comprise of semi-structured interviews and archival data.

RQ3) *How do SME suppliers transfer sustainability requirements imposed by their stakeholders to their suppliers?*

The purpose of RQ3 is to gather data for establishing and make certain that sustainability standards are transferred up the SC for SC sustainability (i.e. from MNC to tier-1 SME to tier-2 SME). Thus, the type of data needed to make certain that members of the SC do transfer sustainability standards may include contractual agreement or code of conduct, inter-firm dialogue, assessment and collaboration practices, social and/or environmental requirements, trust between the SC members, committed long-term relationship between members, little geographical distance between SC partners and little cultural distance between SC partners, policy manuals and training programs.

For the same reasons given in RQ1 such as SMEs not having written sustainability policies, the data would best be collected through interviews and archival data where they exist to support the data collected through the interviews. Therefore, the methodology for this question would be a semi-structured interview and archival data.

RQ4) *How do stakeholders engage SME suppliers in sustainability practices/initiatives?*

RQ4 builds from RQ3, i.e. how the stakeholders may engage SMEs and influence them to adopt sustainability practices. In other words, what influence strategies would the stakeholders use to engage the SMEs.

A focal firm may transfer sustainability practices to its suppliers using supplier assessment tools, codes of conduct and collaborating with suppliers (Keating et al. 2008; Andersen and Skjoett-Larsen 2009; Jiang 2009; Gimenez and Tachizawa 2012; Gimenez and Sierra 2013). Furthermore, to ensure the existence of the relationship between the focal firms and its SME suppliers, the following activities should be present, the assessment and education of suppliers, the communication between the focal firm and its suppliers or purchasing criteria

and checklists (Holt 2004; Seuring and Müller 2008), to integrate sustainability into supplier management processes (Bowen et al. 2001; Wolf 2011).

The type of data needed for ensuring SME suppliers compliance and establish how the focal firms engage SME suppliers may include codes of conduct, supplier management practices (that include assessment and selection criteria), cross-function integration, and supplier collaboration practices (such as training, awareness-raising workshops, corrective action), inter-firm dialogue, external stakeholder collaboration, audit report, trust between focal firm and SME suppliers, supplier know-how of focal firm, committed long-term relation between focal firms and SME suppliers, little geographical distance between focal firms and suppliers and SME suppliers willingness to disclose to focal firms.

To obtain the above data, the data collection method would need to involve interactions with individual representatives of each stakeholder through interviews and analysis of archival data to support interview findings.

RQ5) *What barriers do* SME suppliers *face when adopting sustainability practices?*
RQ6) *What are the mechanisms for overcoming the barriers SME suppliers face in implementing sustainability practices?*
RQ7) *How can SME suppliers be motivated to practice sustainable development?*

RQ5, RQ6 and RQ7 are linked and as such, the collection of data can be conducted simultaneously. Essentially, RQ5 is concerned with identifying the barriers SMEs face when engaging in sustainability practices. RQ6 concerns the mechanisms for overcoming the barriers SME suppliers face when adopting sustainable practices, while RQ7 focuses on the motivational aspects to encourage SMEs to engage in sustainability practices. However, in order to determine the mechanisms and ways of motivating SMEs, it is imperative to establish the barriers and drivers first.

The barriers, drivers and mechanisms for mitigating the barriers were discussed in the literature review, Section 3.6, page 70. However, to establish the specific drivers, barriers and mitigation mechanisms applicable to the SME suppliers in mining SC in Zambia, it is best to ask the SME owner/managers and the representatives of stakeholders.

The design of the collection and analysis of the qualitative data was a particular concern in this research process. Having drafted the framework, the researcher based qualitative data collection method on the data needed and the knowledge of local settings and targeted participants. However, in order to analyse the data in a manner that will enable populating the framework, the chosen method should enable quantification of data and generating, developing and verifying of concepts in order to gain an understanding of why the participants maintain a particular viewpoint. Quantification is particularly important since it may assist in determining the influential and key stakeholders.

There are many qualitative data analysis methods that include grounded theory, narrative analysis and content analysis. However, in order to develop the framework that shows the stakeholder influence on the SMEs with regards to sustainable practices, the analysis method should, among other analyse the context of the text to determine the most recurring occurrences. Morgan (1993) refers to this as quantitative analysis of qualitative data. The quantification of the text data is important in this study since the most quoted words reflect the interest of the inquiry. The frequency of concept in the text is an indication of the importance of the concept (Rossi et al. 2014). For instance, if the most recurring stakeholder is the government, would signify that it is the most important stakeholder to SMEs regarding sustainability practices. Therefore, the choice of the qualitative data analysis is content analysis. The most common concept of the content analysis is that of counting the frequency of words.

Lune and Berg (2012: 349), define content analysis as “a careful, detailed, systematic examination and interpretation of a particular body of material in an effort to identify patterns, themes, biases and meanings”. It is a powerful qualitative research technique for analysing a large amount of qualitative data,

and widely employed in social science research to analyse data of texts. The text data can broadly be defined as textbooks, interview transcripts, transcripts of focus groups, company brochures, contracts, dairies, websites, entries on social network sites, television programs, newspaper articles, magazine advertisements, interviews and formal and informal conversations, research articles and many more (Schreier 2012). According to Bryman (2012), content analysis is a qualitative technique that emphasises the quantification of data collected in terms of predetermined categories and in a systematic and replicable manner. Mayring (2000) described content analysis as a qualitative method which explicitly allows a quantifying and statistical evaluation of the data collected. The researcher adopted content analysis as recommended by Grimm (2013), whose study focussed on ensuring suppliers' and sub-suppliers' compliance with corporate sustainability standards in supply chains.

However, the scope of content analysis goes beyond quantification of text data and coding or identification of the concepts present in a given text data. It can also identify relationships around themes central to research that may lead to the proposition of hypotheses and constructs that can be checked by statistical techniques multivariate (Rossi et al. 2014). Other uses include analysing sensitive phenomenon or exploring complex phenomena encountered by nurses, policymakers, and patients (Vaismoradi et al. 2013). Therefore, it is used in a variety of domains, including communication, political science, psychology, history, language studies, but most widely used in social science, mass media and marketing communication research. In this study, the use of content analysis will be restricted to quantification and codification of text data, referred to as conceptual content analysis methods. Content analysis is discussed in detail in Section 4.7.2, page 144. The type of data and methodology needed for analysis is summarized in Table 4.1.

Table 4.1: Showing type of data needed and the targeted respondents

Research Questions	Type of data needed	Targeted respondent	Methodology
RQ1: What are the current sustainability practices among the SME suppliers in Zambia?	Health & safety program, employee incentives, medical schemes, community activities sponsored, a donation to charities, environmental regulations compliance, health, safety and environment policy, suggestion boxes for employees, eco-design, new product design to decrease environmental impact, code of conduct, energy consumption, waste minimization.	SME owner/managers	Semi-structured interview Archival data
RQ2: Who are the stakeholders and what do they expect from SMEs suppliers in the copper mining SC?	Assessment & collaboration practices, training, awareness-raising workshops, corrective action plans, stakeholder collaboration	SME owner/managers, NGOs, government agencies, trade associations, focal firm-purchasing managers	Semi-structured interview, Literature review and Archival data
RQ3: How do SME suppliers transfer sustainability requirements imposed by their stakeholders to their own suppliers?	Contractual agreements (code of conduct), inter-firm dialogue, assessment and collaboration practices, training, awareness-raising workshops, corrective action plans	SME owner/managers	Semi-structured interview Archival data
RQ4: How do stakeholders (including focal firms) engage SME suppliers in sustainability initiatives?	Suppliers management practices (assessment and collaboration practices), cross-functional integration, training, awareness-raising workshops, corrective action plans	SME owner/managers, focal firm-purchasing managers, trade associations, government agencies & NGOs	Semi-structured interview Archival data
RQ5: What barriers do SME suppliers face when adopting sustainability practices? RQ6: What are the mechanisms for overcoming the barriers SME suppliers face in implementing sustainability practices? RQ7: How can SME suppliers be motivated to practice sustainable development?	Most mentioned barriers and driver is the lack of power and SC pressure respectively. Partnership and networking may be used for overcoming the barriers.	SME owner/managers, focal firm-purchasing managers, trade associations, government agencies & NGOs	Literature review Semi-structured interview

4.3 Research Design

The above discussion guided the researcher in determining the research methodology based on the data needed, the research questions and the targeted participants. The research question and the data to be collected call for a method that facilitates understanding of the underlying causes or factors that influence the choice of decisions the SME owner/managers make and allow the researcher to get closer to the subjects (Burrell and Morgan 1979). Silverman (2011) states that research can be defined broadly as either qualitative or quantitative or, more narrowly, grounded theory, case study, action research, etc. In keeping with the research objective of the study, the overall strategy is defined broadly as qualitative and exploratory research (Patton 2002).

Qualitative research has also been described as an unfolding interactive approach that occurs in a natural setting and enables the researcher to develop a level of detail from high involvement in the actual experiences (Creswell 1994), and is probably more important in the context of this study on sustainability than quantitative research. According to Denzin and Lincoln (2005), qualitative research is a situated activity that locates the inquirer in the world, and it involves an interpretive, naturalistic approach that turns the world into a series of representations, including interviews, field notes, conversations, recordings, and memos that make the world more visible. This means the researcher can study things in their natural settings, in an attempt to make sense of or interpret the phenomena under investigation (sustainability) in term of the meanings people bring to them. In this way, the researcher hopes to produce soft, rich, flexible and subjective data (Silverman and Marvasti 2008).

In addition, when human relations and interactions play a significant role in shaping the phenomenon, as is the case, qualitative research is the most appropriate design. Since it is more likely to reveal the logic behind the diverse ambiguousness that shapes the sustainability concept in an SME context (Holliday 1995; Spence and Painter-Morland 2010), which the researcher intends to investigate. Furthermore, the choice of methodology is in line with the

methodology employed by other researchers that have undertaken similar studies (Ibrahim et al. 2012; Meqdadi et al. 2012; Grimm 2013).

According to Gray (2014), the exploratory approach is useful in situations where not much is known about the phenomenon, as it aims at exploring what is happening and asking questions about it to the experts in the field (Saunders et al. 2007). Therefore, qualitative exploratory research is appropriate for this study since little is known about SMEs' sustainability practices in developing countries in sub-Saharan Africa. The review of literature also showed that no research has been conducted in sustainability practices by SMEs in the Zambian context.

4.4 Philosophical Stance of the Study

The aim of the study is to develop a detailed stakeholder framework for the assessment of SMEs' sustainability practices in developing countries. As discussed above, SMEs in developing countries operate discreetly, which makes studying their activities complex. Their beliefs, cultural as well as friends and family and the quest for economic prosperity influenced by their worldview. Therefore, in order to understand the underlying factors that influence the choice of the decisions and the perceived challenges and drivers in the context of sustainability practices in SMEs, Burrell and Morgan (1979) suggested that the researcher needs to get closer to the subjects being probed. Thus, the method chosen, qualitative and exploratory research, allowed the subjects being investigated to reveal their true nature during the investigation process.

In keeping with the methodological position, the philosophical assumption underpinning this study is pragmatism. Pragmatist researchers pay more attention on understanding the problem and the "what" and "how" of the research problem (Creswell 2003). As such, the research question is the central point, and data collection and analysis methods are chosen on their likelihood to provide insights into the research questions with no philosophical loyalty to any alternative paradigm (Mackenzie and Knipe 2006). Therefore, the philosophical position for this study has been guided by the research objective and questions and the type

of data needed to operationalize the framework. Other reasons for the philosophical stance are as follows;

- The behaviour of SME owner/managers is complex and dynamic, and as such it can be concluded that their sustainability practices are dynamic as well. Pragmatist researchers work with the complex, real world, everyday practicalities of individuals and communities by focusing on actions and change (Cornish and Gillespie 2009; Goldkuhl 2012). They claim that the essence of society lies in an ongoing process of action, and to be understood, the society must be seen and comprehended in terms of the action that comprises it (Goldkuhl 2012). As demonstrated in Section 3.3, page 47, the sustainability concept is coined through the social interactions between social actors, who, throughout the decades, have continually defined and redefined and refined the concept to reflect the evolving changes in social expectations and relationships between business, environment and society.

- This study seeks to develop a stakeholder framework by first making sense of the role of SME owner/managers in their society as influenced by the stakeholders and their structure. The aim of pragmatist researcher is to construct knowledge that is appreciated as being useful in action by asking about “what works” (Goldkuhl 2012). Consequently, for pragmatist researchers, the only sensible yardstick by which to judge a piece of knowledge is whether that knowledge is useful for a given interest (Cornish and Gillespie 2009).

- From an ontological and epistemological perspective, pragmatism suggests a pluralistic and stress on understanding the world and how research questions or problems can be resolved. Pragmatism places more importance on ‘methodological openness’ in order to address and answer the complexity of research reflecting countless real-life challenges. Therefore, pragmatist researchers focus on plurality, which is reflected in the many approaches, methods and designs that they can choose to best

answer their research questions (Creswell 2014; Patton 2015; Kelly et al. 2018)

- The business world and business-society relationship is, as a result of the social interaction between SME owner/managers and the key stakeholders, such as employees, suppliers, government, focal firms and the community at large. Therefore, sustainability phenomenon needs to be viewed through a philosophical assumption of pragmatist researchers who are concerned with action and change and the interplay between knowledge and action (Goldkuhl 2012). According to Cornish and Gillespie (2009), knowledge comes with assumptions about the way society works, is produced by certain social groups and advances certain interests at the expense of others.

- Cole (2006), argues that qualitative researchers are more concerned about uncovering knowledge about how people feel and think about the circumstances in which they find themselves, than making judgements about whether those thoughts and feelings are valid. For the pragmatist, knowledge is judged according to its consequences in action (Cornish and Gillespie 2009). They recognise that any process of inquiry is always social in nature (Morgan 2014).

For all these reasons, the stance adopted for this study is that of the pragmatic researcher.

4.5 Sample and Sampling Parameters

Sampling is a core concern for researchers to determine the success of the research. However, there are two key factors that guide the sampling methods in qualitative research, the appropriateness and adequacy (Morse and Field 1995). Furthermore, Marshall (1996) argues that the researchers should be pragmatic and flexible in their approach to sampling and that an adequate sample size is one that sufficiently answers the research question.

In this study, a “non-probability sampling” technique was used. This technique is largely driven by the social constructionist epistemological research which supports the stance of the current research. In this technique, the choice of the sample is based on the researcher’s judgment on which potential participants have the characteristics that might enable him to gain insights into the issues to be addressed by the study and to answer the research questions (Patton 2002; Saunders 2012). Therefore, purposive and snowball sampling was used. According to Miles and Huberman (1994), these sampling techniques are the most prevalent used by qualitative researchers. The choice is for a small number of informative participants who would be likely to generate insightful information that would meet the aim of the study (Neuman 2005).

According to Gray (2014), purposive sampling, is used when particular people, event, settings are chosen because they are known to provide information that could not be gained from other sampling designs, as such the researcher has to exercise a degree of judgement about who will provide the best perspectives for the phenomenon at study. Snowball sampling is an approach, where the researcher identifies a small number of subjects, who, in turn, identify others in the population (Gray 2014). Some population because of low visibility may be hard to locate and contact. Therefore, snowball sampling is useful for research into “hidden populations”, where there are difficulties in locating, gaining access to and recruiting participants *(Ibid)*. As discussed in Chapter 2, Section 2.4, page 23, informal SMEs fall into this category of the population with low visibility. Therefore, in this study, a sample of Purchasing Managers of focal firms was identified purposively; who, in turn, directed the researcher to the SME suppliers in their SC, and equally the formal SMEs directed the researcher to the informal SMEs in their SC.

According to Section 3.5, page 52, of the literature review, the more relevant methodological approach is to focus on the owner/managers, when studying the sustainability phenomenon in an SME context (Association of Chartered Certified Accountants 2012; Meqdadi et al. 2012; Demuijnck and Ngnodjom 2013; Choongo et al. 2017). In the frame of this logic, the study focused on

owner/managers' perspectives towards their role in the engagement of sustainability practices.

4.5.1 Sample size

Sampling in qualitative research is concerned with the richness of information (Kuzel 1992), and the number of participants required, therefore, depends on the nature of the topic and the resources available (Gaskell 2000). However, Marshall (1996) suggests that an adequate sample size is one that sufficiently answers the research question.

According to Morse et al. (2002), a sufficiency of sample size is measured by the depth of data rather than frequencies and, therefore, samples should consist of participants who best represent the research topic. However, Mason (2010) argues that the sample size needs to be large enough to capture a range of experiences but not too large as to be repetitious and that the common guiding principle is saturation. Bowen (2008) further adds that adequacy of sampling relates to the demonstration that saturation has been reached, which means that depth, as well as the breadth of information is achieved. Furthermore, qualitative researchers most often make decisions related to the adequacy of their sample based on the notion of saturation (O'Reilly and Parker 2013).

According to Marshall et al. (2013), the concept of saturation was originally developed for grounded theory studies but applicable to all qualitative research that employs interview as the primary data source. It entails bringing new participants continually into the study until nothing new is generated (Green and Thorogood 2004); that is the point of which there are fewer surprises and there are no more emergent patterns in the data (Gaskell 2000). Therefore, estimating adequate sample size is directly related to the concept of saturation (Marshall et al. 2013).

However, there are number of factors that may affect the number of interviews needed to achieve saturation, including nature and scope of the researcher, quality of interviews, number of interviews per participant, sampling procedures

and researcher's experience (Marshall et al. 2013), and homogeneity of the sample (Burmeister and Aitken 2012), which refers to how similar the participants in the study are to each other and is a reflection of how well the sample reflects the study population.

However, while saturation may be important to an excellent qualitative work, there are no published guidelines for estimating the sample size required to reach saturation (Morse 1995). The sample size depends on what a researcher want to know, the purpose of the inquiry, what is at stake, what is useful, what have credibility and what can be done with available time and resources (Patton 2002: 242).

Although sampling to the point of redundancy is ideal, it works best for basic research, with unlimited timelines, and unconstrained resources (Patton 2002). Therefore, sampling designs need to specify the minimum samples based on expected reasonable coverage of the phenomenon given the purpose of the study and stakeholder interests (Patton 2002: 246). In addition, Guest et al. (2006: 60) emphasized the need for numerical targets for sample sizes of interviews, and that qualitative researcher, whether novice or experts, need to know how many interviews they should budget for and write into their protocol before they enter the field.

Therefore, in this study, the sample size was fifty (50), comprising of seven (7) purchasing managers or their representatives from the focal firms, twenty-five (25) formal and informal SME owner/managers, eight (8) government agencies and NGOs managers, seven (7) trade associations managers, three (3) civic leaders and three (3) community members, for details see Table 5.1, page 159. The sample sizes were objectively selected and provided sufficient and rich, informative data, leading to data saturation. The researcher was able to determine that saturation had been reached from the repetition of the responses. For example, the participants kept mentioning the same stakeholders with the government being categorised as the key stakeholder by all participants but five.

4.5.2 Selecting the research sample

Although this study focused on the SME owner/managers, the first sample was from the focal firms, targeting the purchasing managers, who then recommended the SMEs based on their participation in the focal firm's SC. This is because, by Zambian law, focal firms should only trade with formal companies. The focal firms were purposively chosen based on the locality and their core business-copper mining. The purchasing managers in these firms were key personnel for this study, they are the one in direct contact with the SME suppliers and in most cases, make the final decision in the selection of the suppliers. Therefore, it was important to get their side of the story of their relationship with the suppliers first. That was the first step in the identification of SME owner/managers through their involvement in the mining SC.

The second sample, SME owner/managers were also identified based on the official definition of SMEs (Ministry of Commerce Trade & Industry 2009), Section 2.3, page 23. This step also acted as a confirmatory to the purchasing managers' recommendations, and ensured that the SME is a formal company.

The other second sample of owner/managers comprised of the owner/managers of informal SMEs. The informal SMEs going by the discussion in Section 2.4, page 23 are hard to identify and locate. However, they conduct business with the formal SMEs and as such, in order to contact them; the researcher relied on the recommendations from the formal SMEs.

In the Zambian context, as is the case with most developing countries, sustainability practices in SMEs are highly informal. It depends on the day-to-day situation. Few SMEs communicates and report their social practices and initiatives, or follow formal sustainability standards. This makes them hard to identify. Another reason for the lack of SME communication of their sustainability practices is due to their lack of understanding of the sustainability concept. Therefore, some SMEs may be involved in sustainability unknowingly. While other SMEs may be involved in charitable and cultural activities according to their cultural and religious beliefs, but "do not want to brag about their good deeds".

The above reasons contributed to the difficulty in identifying SMEs engaged in sustainability initiatives. Hence, a snowball sampling technique is seen as appropriate to identify the SMEs that are not aware of, and practicing sustainability activities.

The third sample was drawn from the population of stakeholders (i.e. NGOs, government agencies working with SMEs and trade associations). This grouping strategy was important as it informed and enabled the analysis of the data by drawing comparisons between the views of these three groups. The diverse perspectives facilitated the revelation of interesting and key patterns that mostly match, confirm, and add further explanations and elaborations to the views of the second group of participants (SME owner/managers). This approach arguably added value and rigour to the findings of the research. Miles and Huberman (1994: 34) call this a “peripheral sampling”, which highlights the significance of working outside the periphery, by talking to people who are not central to the phenomenon but are “neighbours” to it. Miles and Huberman, further, argued that this approach has the potential to give contrasting and comparative information, which helped the researcher to understand the issues of the study. The sample type and sampling method for each sample are summarized in Table 4.2.

Table 4.2: Summary of the sample and sampling methods

No.	Sample	Sample size	Sampling methods	Comments
1	Purchasing Managers or their representatives from focal firms	7	Purposive sampling	Chosen based on their locality and core business. To assist in identifying the SMEs
2	SME Owner-Managers (formal and informal)	25	Snowball sampling	Formal SMEs were identified by Purchasing managers, and the informal were identified by formal SMEs and the researcher's local network
3	Stakeholders (eight government agencies and NGOs managers, seven trade associations' managers, three civic leaders and three community members)	21	Purposive sampling	Chosen based on their relationship with SMEs & the researcher's local network.

4.6 Research Method

The data collection method chosen for this study, as outlined in Section 4.2, page 119 is semi-structured interviewing technique. A semi-structured interview is a type of qualitative interview where a researcher has a list of questions to be covered, although the order of questions varied in each interview that the researcher conducted (Easterby-Smith et al. 2012). Qualitative interviews were aimed at not only to understand the viewpoint of the participants, but also to gain an understanding of why the interviewees maintain a particular viewpoint (Saunders et al. 2007).

As discussed above, qualitative researchers acknowledge the socially constructed nature of reality. According to Guba and Lincoln (1994), knowledge is dependent on both the researcher and the informant and needs to be described in a meaningful way since the evidence cannot be divorced from the inquirer.

Consequently, qualitative research is a situated activity that involves studying the phenomenon in its natural setting in an attempt to make sense of and interpret it in relation to the meanings that individuals bring to it (Denzin and Lincoln 2005). As such data need to be collected in the participant's setting (Creswell 2009).

Semi-structured interviews involve asking mostly open-ended questions in order to elicit the understanding of the interviewee regarding the phenomenon being researched (Bryman and Bell 2007). According to Miles and Huberman (1994), it is a subjective and narrative method that incorporates verbal communication in order to understand human feelings and social situations. Therefore, semi-structured interviews were also chosen for its flexibility and ability to provide rich and comprehensive data (Bailey 1987; Birn and Hague 2000; Creswell 2009), and complement the research objectives (Punch 2013).

Furthermore, since the study endeavoured to explore SME dynamics concerning sustainability phenomenon, the use of semi-structured interviews was particularly suitable for an in-depth, richer and better understudying of interactions between stakeholders and SME owner/managers. Semi-structured interviews in the context of a qualitative research design offer several advantages, which include;

- The exploration of the perceptions and opinions of the participants regarding complex and sensitive issues and enable probing for more information and clarification of answers.
- The researcher can probe to understand perspectives and gain in-depth of information.
- Interview guides ensure that a core list of questions is asked in each interview since the order of questions is not fixed, flow and sharing of views are more natural

As discussed in the literature presented in Section 1.5, page 9, most SME owner/managers, have a tendency not keeping robust records of their activities, rely heavily on their memory and they do not appreciate the value of research and as such they do not like participating in them or providing information needed

for research. Therefore, the use of semi-structured interviews was that through face-to-face discussion with the participants, the researcher was able to build a rapport with the participants and gain their trust to motivate and prompt them to participate in the study by talking freely. The intention was also to encourage participates in promoting and discussing a variety of additional, related topics, by probing key participants' understanding of various facets of the sustainability-related issues in question, such as mechanisms for addressing the barriers. This technique leaves ample scope for reflection and interpretation in the course of an interview, which is essential in the context of tacit perceptions and complex interactions (Patton 2002), which improves validity. Validity and reliability can be improved further as the researcher probes and prompt to tease out from the interviewee various strands of their narrative to complete the story.

Since the owner/managers may have limited formal education, this method enabled the researcher to explain the unfamiliar vocabulary (Demuijnck and Ngnodjom 2013). Similarly, the researcher was able to explain to the participants the questions they had challenge understanding while at the same time understand the participant's point of view rather than make a generalization about their behaviour.

Each interview was guided by the proposed framework (see Figure 3.7, page 116 and the semi-structured interview guide, see Appendix A, page 335) that was developed in advance, outlining issues to be covered. At the beginning, it addressed background questions, such as the participant's position in the firm, age group, gender, the duration with the firm and the level of education, in order to determine the suitability of the participant. It then moved on to different parts/sections of the interview guide applied to the identified participant differently hence the questioning emphasis was different. Each section began by addressing the definition of and familiarity with the sustainability concept, in order to determine their understanding of the concept. This was followed with questions relevant to that particular section. For instance, questions in Section A were relevant to the focal firms, questions in Section B were relevant to the formal and informal SMEs, questions in Section C1 were relevant to the NGOs and the government agencies working with SMEs, questions in Section C2 were relevant

to the trade associations and questions in Section C3 were relevant to the local community leaders and members. The interview guide was complemented by spontaneous questions in response to the points of view offered by the interviewees. This makes the semi-structured interview approach more appropriate to this study.

The researcher also kept a diary during the fieldwork to record all the observations, thoughts, questions and comments about interesting findings. The diary also served as a point of reflection on day to day experiences such as appointments with participants, informal discussion with colleagues and supervisors, potential research ideas, and interviews settings. Some of these activities assisted the researcher during write-up and greatly influenced the quality of the research. As such, keeping a diary is essential for a researcher during fieldwork.

The initial contacts with the interviewees varied depending on the targeted participant. Accessing the purchasing managers for the focal firms and managers for government agencies was initially difficult. To counter this, I obtained an introductory letter from the Copperbelt University to take to the government agencies (see Appendix B). After delivering the introduction letter, interview guide questions and ethical documents (consent forms and the participant information sheet) (see Appendix C and D, respectively), I would then be given a date or told to telephone the following day for the response. The response was always positive and would be directed to the person that would best assist me to arrange the date for interviews. For the purchasing managers for the focal firms, I used the local network to obtain the contact details of the targeted managers, whom I contacted by phone. After the initial greeting, I introduced myself and the purpose of the research, the appointment date for face to face meeting would be agreed. On the appointment date, the aim of the research would be explained further and ethical procedures as outlined by University of Bradford Research Ethics Committee and agree on the date for interviews. Where it was not possible to meet the purchasing managers in person, the ethical documents and interview guide questions were sent via emails. The initial contacts with the SMEs

owner/managers were made in person and in the company of local person known by them to gain their trust besides being referred by the purchasing managers.

On the date of the interviews, each interviewee was contacted by telephone to remind and confirm their availability. This helped the researcher manage his time and resources effectively. This way, some interviewees confirmed their availability with some rearranging for another date, while others did not respond when contacted for confirmation. Therefore, follow-up telephone calls were made. The researcher successfully managed 50 interviews conducted on a one-to-one basis. However, 46 interviews were on face to face at the interviewees' workplaces and others in private places (especially the SME owner/managers) and 4 were telephone interviews. Before beginning each interview, the researcher verbally explained the research aim, objective and ethical procedures as outlined by University of Bradford Research Ethics Committee. With the consent of the participants, the interviews were audio-recorded using an audio-recorder and saved on separate digital files labelled with the time, location and the detail of the participant. For the telephone interviews, a verbal consent was obtained before beginning the interviews. The average interview time was 32.46 minutes, the shortest interview lasted for 10 minutes and the longest interview lasted for 71 minutes. However, 3 interviewees declined audio-recording using an audio-recorder; as such the researcher had to write down the answers to the interviews. The summary of the interviews conducted during the fieldwork that was undertaken between the period January 12, 2017 to February 27, 2017 are presented in Table 5.1, page 159.

4.6.1 Secondary data

In addition to the interviews, secondary data was also collected through the use of company documents that were collected during the visit. This applied to companies that had the documents as the literature intimates that most SMEs do not keep records, as such documents were collected from some NGOs and trade associations. In addition, the secondary data was used as evidence to support the qualitative data.

4.7 Data Analysis

Qualitative research generates a large, cumbersome database because of its reliance on prose in the form of such media as field notes, interview transcripts, or documents, and analysis implies abstraction and some degree of generalization. Furthermore, qualitative data has been described as an 'attractive nuisance', because of the attractiveness of its richness but the difficulty of finding analytic paths through that richness. Therefore, data analysis is the process that gives meaning to the data by generating, developing and verifying concepts (Corbin and Strauss, 2008).

4.7.1 Data analysis approaches

Most qualitative analysis employs both inductive and deductive approach. A deductive approach to data analysis starts with theory followed by the observation of the data and ends with the confirmation of its accuracy. An inductive approach to data analysis starts with observation of the data and ends in discovering patterns, themes and categories in the data generated (Maxwell 2005).

In this study, the data analysis approach was inductive. This implies that the researcher does not start with initial preconceived themes. However, every researcher comes with ideas (theory) drawn from the topic of the inquiry, existing literature and researcher expertise (experience) or may already have anticipated some of the themes to be present. In this research, the researcher started with initial codes drawn from literature, research questions and interview schedule. Nonetheless, the approach was inductive because the researcher relied very strongly upon the collected data from interviews in the development of the themes. The use of inductive approach has an advantage in that it limits the possibility of the researcher forcing a preconceived result.

The inductive approach recognizes the meanings of the situations and events, the specific context within which the participants act and the process by which actions and events occur; in order to develop theories after the data have been collected and analysed (Saunders et al. 2009). According to Thomas (2006), this produces valid and reliable findings. The inductive approach also allowed intuition

to guide the progress of the researcher's understandings of the data (Easterby-Smith et al. 2012).

4.7.2 Content analysis

The content analysis is a widely practiced technique in qualitative inquiry. Although it originates in communications research, it also has a long history of use in journalism, sociology, psychology and business (Neuendorf 2002). As such, it is a generic name for a variety of means of textual analysis that involves comparing, contrasting and categorising a corpus of data, including now both numeric and interpretive means.

According to Gray (2014), content analysis involves the making of inferences about data (usually text) by systematically and objectively identifying special characteristics, such as classes or categories, within the data. In an attempt to achieve a measure of objectivity, the process allows for the creation of specific criteria for selection in advance of the data analysis process. These categories are often derived from the theoretical framework and brought to the empirical data and not derived from them (Flick 2009). In this study, the categories were derived as informed by the conceptual framework developed in Chapter 3.

Lasswell (1971) has described content analysis as a technique that emphasizes the quantification of "what" a message communicates and presents a classic formulation: WHO says WHAT to WHOM with what effect? "Who" refers to the source of information, the "why" refers to the codification process, and the "how", refers to the communication channel, and the consequences or effects that the "receptor of the message" has (Holsti 1969). This was important in this study because the aim of the study was to determine the effects that the respective stakeholders have on the SMEs or the consequences of non-compliance.

4.7.2.1 Types of quantitative content analysis

There are two generic content analysis categories: (1) conceptual analysis and (2) relational analysis. Conceptual analysis is concerned with the examination of the reoccurrence of particular concepts in a text, while relational analysis builds

on conceptual analysis by examining the relationships among concepts in a text (Wilson 2011). The primary reason for the choice of content analysis over other qualitative method was its ability to quantify qualitative data. Therefore, in reference to Section 4.2, page 119 a conceptual analysis was used for this study. For this reason, it is explored in more depth below.

4.7.2.2 Conceptual content analysis

This is where a concept is chosen for examination and the number of times it occurs within the text being recorded. That is the content is coded for certain words, concepts or themes and the researcher make references based on the emerging patterns (Wilson 2011). In this study, the words coded included different stakeholders, stakeholder roles, current sustainability practices, sustainability transfer strategies, sustainability drivers and barriers, mechanisms for averting the barriers among others derived from the research framework.

4.7.2.3 Conceptual analysis methods

The method begins with the identification of the research question and the choice of the samples. In this case, it was the identification of research sub-questions. This is followed by the coding of texts in content categories. The codification process is essentially a selective reduction. Thinning out the text in categories, consisting of words, a set of words or phrases the researcher may put an emphasis, and to code, specific words or designs that are indicators of research questions (Rossi et al. 2014).

4.7.2.4 Steps for conducting conceptual analysis

These steps involve coding texts or a set of texts, which in this study were transcript interviews.

Table 4.3: Steps for conducting conceptual analysis

Steps	Description
Establish the level of the analysis	The researcher decides the level of analysis. This may be coding a simple word or a set of words or phrases.
Decide how many concepts to code	The researcher decides on the number of different concepts that will be coded. This involves the development of a pre-defined concept and categories. Thereafter, the researcher has to decide on how much flexibility will be allowed in the codification process. The determination of how many concepts or set of concepts allows the researcher to focus on specific points. Flexibility allows the inclusion of new materials for codification that may be important for the final result.
Deciding if concept codification will be made by existence or frequency	The researcher has to decide whether to codify only the existence or the frequency. The number of times that a concept appears in the text may be an indication of the importance of the concept.
Deciding how concepts will be distinguished	The researcher must decide on the level of generalization of concepts, i.e. whether the concepts will be coded exactly as they appear or may be counted as equals even if they appear in different forms. That is, whether the words mean the same thing or if the meanings are radically different.
Develop rules to code texts	The development of a set of rules helps the researcher to ensure that the encoding of concepts is consistent throughout the text, and always the same way.
Decide what to do with irrelevant information	The researcher has to decide what to do with the irrelevant information. That is whether to ignore or use it to reconsider the codification procedures.
Coding the text	The researcher has to decide whether to code the text manually, by reading the text and manually writing the occurring concepts, or by the use of software or both. Encoding with computer programs is of great help since it can examine large amounts of data in a wide variety of texts in a quick and efficient manner.
Finding Analysis	When the coding is completed, the researcher has to decide what to do with the information from the texts that were not coded, whether to delete or skip such information or try to understand all information as relevant and important and uses them to reconsider, reassesses and perhaps change the encoding scheme. The researcher then prepares to conclude by investigating the data and make conclusions, and, if possible, make generalizations.

Source: Adapted from Rossi et al. (2014)

However, there are practical and methodological difficulties with content analysis. There is often an enormous amount of data available that require a significant amount of time for analysis (Howell-Richardson and Mellar 1996; Gerbic and Stacey 2005). This challenge was overcome in this study with the use of computer-aided qualitative data analysis software (CAQDAS) called Nvivo 10. See Section 4.7.5, page 149 for details.

4.7.3 Using computer software to analyse interview data

CAQDAS is a generally used term for computer software packages used to analyse qualitative data, effectively (Easterby-Smith et al. 2008). In contrast to the quantitative software packages, the CAQDAS does not do the actual analysis; rather it aids the researcher in the analysis process (Weitzman and Miles 1996). CAQDAS packages allow for operations such as writing memos, writing a reflection on the interview contents, creating coding and sub-coding categories and searching for keywords (Kvale 1996). The CAQDAS was chosen for its advantages in analysing the qualitative finding using a software package called Nvivo 10, which is considered the best available software package. Nvivo 10 was used to make content analysis more manageable and ordered, and facilitated new levels of analysis (Gerbic and Stacey 2005). Gibbs (2002) observed that Nvivo supports fine-grained analysis of parts of a message, rather than the coding of the whole message. Speed coding meant that text were rapidly coded as it was read on the screen, and this enabled new concepts or themes be easily captured and coded and stored for later consideration. These Nvivo nodes were also useful because of the creation of nodes whose title and description were derived directly from the text in the data, thus creating vivid and colourful images to assist the researcher and the reader (Gibbs 2002). CADQAS software programs also managed other data sources within the same project, which facilitate triangulation of data within the study (Gerbic and Stacey 2005). See Section 4.7.5, page 148 for details.

4.7.4 Interview transcription

Transcription is the process through which the researcher transcribes the recorded interviews into written form. The researcher followed the recommendation of Wengraf (2001) and McLellan et al. (2003) in regard to transcribing the interview content as illustrated in Table 4.4. In the first phase, the researcher listened to the recorded interviews for the purpose of familiarization with the content evoking memory before the transcription process. This was followed by the actual transcription process starting by listening to the audio conversation, typing it into word processing software. Thereafter, when the interview transcript was finalized, the researcher listened to the interviews for the

last time, and double-checked what had been produced in order to ensure nothing was missed during the transcription process.

Table 4.4: Interview transcribing process for the research

No	Task	Description
1	Familiarise	Listening to the interview for the first time
2	Transcribing	Transcription process by listening to the audio conversation
3	Auditing	Listen to the interview for and cross-check the produced transcript

Source: Adapted from Wengraf (2001) and McLellan et al. (2003)

An independent individual was then asked to listen to a sample of the audio recording and followed the transcript in order to ensure the accuracy and compliance of the transcript. Finally, 15 transcripts were sent to the interviewees in order to verify the content of the transcript and to make necessary changes, if any. Fortunately, all the 15 transcripts were accepted as true verbatim of the interviews. The following section will present the steps followed in the current study, as informed by content analysis.

4.7.5 Data analysis process

The data analysis and coding process involved the steps in Figure 4.2 as shown below.

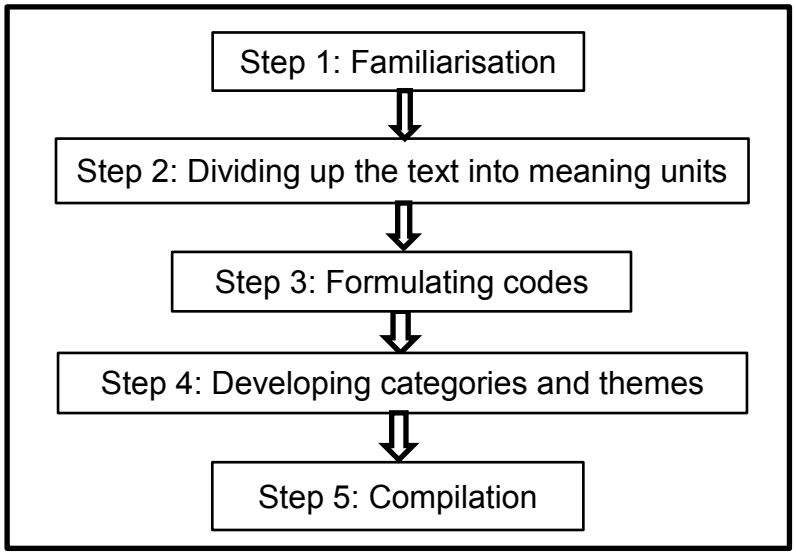


Figure 4.2: Steps in content analysis coding

Source: Adapted from Erlingsson and Brysiewicz (2017)

Step 1: Familiarisation

Having transcribed the interview recordings and transferred the transcripts to Nvivo 10 database to start the coding process, the researcher began by creating a coding list before starting the analysing process, as discussed above. Familiarization is an important initial step in the data analysis process, which involved reading and re-reading the transcribed interviews while keeping in mind the research aim and objective. This step helped the researcher to gain a sense of the text as a whole and created initial impressions.

Step 2: Dividing up the text into meaning units

Since the researcher used Nvivo 10, he did not have to write down the meaning of units but locate them. A meaning unit is the smallest unit that contains some of the insights the researcher needs, and it is a group of sentences or paragraphs containing aspects related to each other, answering the questions set out in the aim (Catanzaro 1988; Graneheim and Lundman 2004; Bengtsson 2016).

Step 3: Formulating codes

This step is to develop codes that are descriptive labels for the meaning units. Therefore, each identified meaning units in step 2 were labelled with a code, which was understood in relation to the context or exactly as they appear. Berg

(2004) refers to this procedure as open coding process. In the analysing process, codes facilitated the identification of concepts around which the data was grouped (Catanzaro 1988). In order to secure reliability, the researcher used the coding list, including the explanations of the codes, to minimize a cognitive change during the process of analysis (Catanzaro 1988; Downe-Wamboldt 1992; Richards and Morse 2012). Since the interpretations of the meaning units that seems clear at the beginning may be obscured during the process, the coding process was repeatedly performed, starting on different levels of text each time to increase confirmability and dependability (Richards and Morse 2012).

Step 4: Developing categories and themes

This step involved sorting codes into categories that answer the questions who, what, when or where? This involved comparing codes and appraising them to determine which codes seem to belong together to form a category. The purpose of creating categories is to provide a means of describing the sustainability phenomenon, to increase understanding and to generate knowledge (Vaismoradi et al. 2013). Since formulating of categories was by inductive content analysis, the researcher came to a decision, through interpretation, as to which things to put in the same category (Dey 2003).

The identified themes and categories were internally homogenous and externally heterogeneous, suggesting that no data fell between two groups nor fitted into more than one group (Patton 2002; Krippendorff 2012). All categories were rooted in the data from which it arose. Moving meaning units back and forth between categories provided progressive development of the category outcome. This process of categorisation continued until the researcher determined that it was good enough, which depended on the aim of the study, and the categorisation finished when a reasonable explanation was reached (Bengtsson 2016). Before ending this step, the researcher performed a word, term and theme count in order to determine the most recurring word, term or theme.

Step 5: The compilation

This is a process of the analysis and writing up, after establishing the categories. This is where the researcher attempts to find the essence of the studied

phenomenon (Bengtsson 2016), which in this study is sustainability practices by SMEs. This stage gave the researcher an opportunity to reach a deeper understanding of the phenomenon under consideration. The researcher considered the data collected from a neutral perspective and considered their objectivity, and the depth of analysis depended on how the data was collected (Bengtsson 2016). The summary of themes and sub-themes created are shown in Figure 5.1, page 158 and Appendix E page 344 the content analysis process.

4.8 Trustworthiness of Qualitative Research

Establishing the trustworthiness (a parallel meaning for rigour in positivistic terms) of the research is essential in social studies. Traditional positivistic approaches include internal validity, external validity, reliability and objectivity (Lincoln and Guba 1985). These concepts are viewed and judged upon differently in qualitative inquiries. Lincoln and Guba (1986) propose different, alternative, but corresponding criteria to establish the trustworthiness of qualitative research. These are credibility, transferability, dependability, and confirmability, correspondingly.

4.8.1 Credibility

Lincoln and Guba (1986) argue that the credibility of a study can be ensured through triangulation (using multiple sources of data). According to Creswell and Clark (2007), triangulation is a verification process that increases validity by incorporating a different source of evidence in a single study. In this study, interviews were the main source of data collection, which may affect the credibility validity. Other sources of data were supposed to be the archived data which were to support the interview data in the form of tangible evidence. Unfortunately, the researcher was unable to collect the archived data as it does not exist among the SMEs. However, in order to increase the data validity, and enable the researcher to have more confidence about the validity of the findings, the data was collected from three different sample populations (focal firm's purchasing managers or team member, SME owner/managers, and external stakeholders such as NGOs, government agencies and trade associations and local community leaders and members). The researcher hoped that collecting data from three different sample

populations overcame the limitation of using the mono method in terms of bias in research findings.

Member-checking is another technique adopted in this study. According to Lincoln and Guba (1985), the credibility of findings is also enhanced using "member-check" technique. This is a process in which collected data are "played back" to the participants to check for perceived accuracy and reactions (Cho and Trent 2006). To achieve credibility in this study, 15 interview transcripts were sent back to the participants. All the respondents that responded all concurred with the researcher's transcription accuracy. According to Kumar (2014), participants are the best judge to determine whether or not the research findings have reflected their opinions and feelings accurately.

4.8.2 Transferability

Transferability refers to the application of research findings in other contexts. However, in this study generalizing the results beyond the setting of the studied sample over a population is not the main concern of qualitative studies, as is the case in quantitative research. Nonetheless, the aim is to provide a rich description of the sustainability phenomenon within the context of the study (Lincoln and Guba 1986). Chapter 5 presents a detailed narrative describing how SMEs in Zambia are involved in sustainability practices. Chapter 6 presents the sustainability practices of SMEs, their motivation and the barriers and influence of the stakeholder. The chapter also presents the reason and ways in which sustainability is conceived and plausible explanations of how the SMEs could increase their sustainability uptake. Providing this rich description about the Zambian contextual realities might present insights into the sustainability phenomenon in the developing and sub-Saharan countries that make transferability possible on the part of potential readers and appliers (Lincoln and Guba 1985).

4.8.3 Confirmability and dependability

This is achieved when repeated investigations of a social phenomenon achieve the same results. More specifically, dependability is concerned with whether the same results could be observed if the same study was to be repeatedly

conducted. Whilst confirmability is similar for reliability in quantitative research, which refers to the restriction on the operation and the procedure of research inquiry, which can be duplicated by other researchers to achieve the similar findings (Riege 2003). In this study, the researcher considered that organizing and storing the data in Nvivo 10 software for future retrieval and later checks achieved confirmability and dependability. In addition, the discussions with supervisors and academic colleagues provided confidence in the rigour of the research process.

4.9 Ethical Considerations

According to Robson (2002), ethical issues in research are of significant importance and as such need to be considered at an early stage of the preparations for the research work up to the time of communicating the research findings. In a qualitative research as is the case in this study, ethical principles needed to be in place in order to avoid harming research participants and the research sponsor, University of Bradford.

Miles and Huberman (1994), argues that the researcher should not just focus on the quality of the knowledge being produced as though its truth is all that counts. The researcher needs to consider the wrongness and rightness of their actions in relation to the participants being studied, their colleagues and the sponsor of their work (Miles and Huberman 1994). Therefore, the ethical issues considered in a research were a harm to participants, lack of informed consent, invasion of privacy and deception (Bryman and Bell 2007). In this study, in regard to ethical issues, necessary measures were taken before undertaking the fieldwork. This was in a form of attaining a formal ethical approval by the University of Bradford's Research Ethics Committee. The ethical approval spelt out the purpose of the research, the researcher's background and institutional affiliation, the research objectives, the intended duration of the interview and the participants' right not to be named in any part of the research report without permission.

In accordance with the University of Bradford Research Ethics Committee's ethical requirements, all participants were advised through the data protection

statement that all data collected and recorded will be held anonymously and securely. No personal data was asked for or retained as the research is governed by the ethical policies of the University of Bradford, which guarantees the confidentiality of all respondents. During the fieldwork, participants were given the opportunity to read the consent letter, for those able to read otherwise it was read to each participant, before being asked to sign it. Most of the SMEs owners/managers in developing countries have limited formal education as such had challenges in comprehending issues pertaining to ethics, hence, it was important to explain to those participants that had challenges. For the telephone interviews, they gave a verbal consent. Furthermore, the interviews were audio-recorded using a recorder, but for some participants that objected to the audio recording, the researcher guaranteed their request by writing down the answers to the interviews. In order to ensure the participants' privacy, no sensitive questions were asked, which pertain to race, ethnicity, political, religious, beliefs and sexual orientation.

4.10 Methodological Limitations

Data collection in developing countries poses challenges. This is the case, especially when part of the data has to be gathered from participants with limited education, such as the owner/managers of both formal and informal SMEs.

A collection of data from informal SMEs posed more challenges. This is because they keep no records of their transactions, and also, they do not have fixed abode. As such locating them to get consent to an interview was not easy. Even when they are located, they were unwilling to be interviewed as they were suspicious and deemed the activity as a waste of time, which could be used to source more revenue. To overcome this challenge in this study, the researcher used his local network to identify persons known by the informal SMEs. These persons accompanied the researcher and introduced him to the targeted interviewee.

The other challenge the researcher experienced during the fieldwork concerned scheduling for the interviews. Some interviewees never kept the agreed meeting time, and some even changing the meeting dates. This is understood, since

SMEs would rather use their time to generate revenue than wait for someone for interviews. The researcher overcame this challenge by making the necessary adjustments, such as; 1) being flexible, 2) agreeing to meet the interviewees after office hours (i.e. after 5:00pm) and 3) telephoning the interviewees on the day of the meeting and one hour before the appointment time to remind and confirm their availability.

The researcher also kept the supervisors updated with the data collection process. This was in the form of Skype calls and emails (sending the summary of interviews conducted). In this way, the limitations which hinge on data collection were addressed with the full consent of the supervisors.

4.11 Summary

The chapter has highlighted the research methodology of the study. The chapter started by revisiting the research objective and research inquiries. This was accompanied with a discourse of the sub-questions in order to find out the type of data and research method, which later contributed to the choice of semi-structured interviews and content analysis for information accumulation and analysis respectively.

Therefore, this chapter contributes to the study by stating the methodology that was employed to investigate the sustainability practices by SME suppliers in the mining industry. The chapter also outlined the philosophical position, data collection and analysis methods that were employed. Finally, the chapter also commented on the research quality, the ethical issues and the methodological limitations. The next chapter, Chapter Five (5), presents the study findings.

5.0 FINDINGS AND ANALYSIS OF SUSTAINABILITY PRACTICES OF SME SUPPLIERS IN THE ZAMBIAN MINING SUPPLY CHAIN

5.1 Introduction

This research focuses on the sustainability practices by SME suppliers in the mining SC of a developing country, Zambia. The objective of this chapter is to present and analyse the interview data in order to address the research questions as presented in Chapter One. In Chapter Four, it was argued that the appropriate research method for this study was semi-structured interviews supported by documentary analysis. The documents collected in the course of the interviews were supporting information pertaining to the acts for the mines and minerals and environmental management, and as such, will be referred to as necessary. The main focus of this chapter will, however, be on the interview transcript analysis.

At this point in the thesis, it is essential to revisit the study research questions and how they will be addressed. This study has two primary research questions and seven sub-research questions as follows. The primary research questions are:

- Do SME suppliers in the mining supply chain engage in sustainability practices?
- How are SME suppliers influenced by stakeholders when adopting sustainability practices in the mining SC?

The sub-research questions are:

RQ1) What are the current sustainability practices among the SME suppliers in Zambia?
RQ2) Who are the stakeholders and what do they expect from SMEs suppliers in the mining SC?
RQ3) How do SME suppliers transfer sustainability requirements imposed by their stakeholders to their suppliers?
RQ4) How do stakeholders engage SME suppliers in sustainability initiatives?
RQ5) What barriers do SME suppliers face when adopting sustainability practices?

RQ6) What are the mechanisms for overcoming the barriers SME suppliers face in implementing sustainability practices?

RQ7) How can SME suppliers be motivated to practice sustainable development?

The chapter is structured around the themes emerging from the interviews as coded during NVivo content analysis coding process, as shown in Figure 5.1 in yellow boxes and Appendix E, page 344.

Table 5.1 shows the profile of the individuals that participated in the research, which comprise of seven (7) participants from the focal firms, twenty-five (25) participants from the formal and informal SMEs, eight (8) participants from government agencies and NGOs, seven (7) participants from trade associations, three (3) civic leaders and three (3) members of the local community. Therefore, A1 to A7 are participants from focal firms, B1 to B23 are participants from formal and informal SMEs, C1 to C18 are participants from government agencies, and NGOs, C21 to C27 are participants from trade associations, and C31 to C35 are participants from the community.

The total number of the participants was fifty (50). However, some participants had dual roles. For instance, participant C21 and C22 are both SME owners and members of the trade associations, participant A7 is a Buying Superintendent of a focal firm and at the same time a civic leader. For other pertinent details about the participants, refer to Table 5.1.

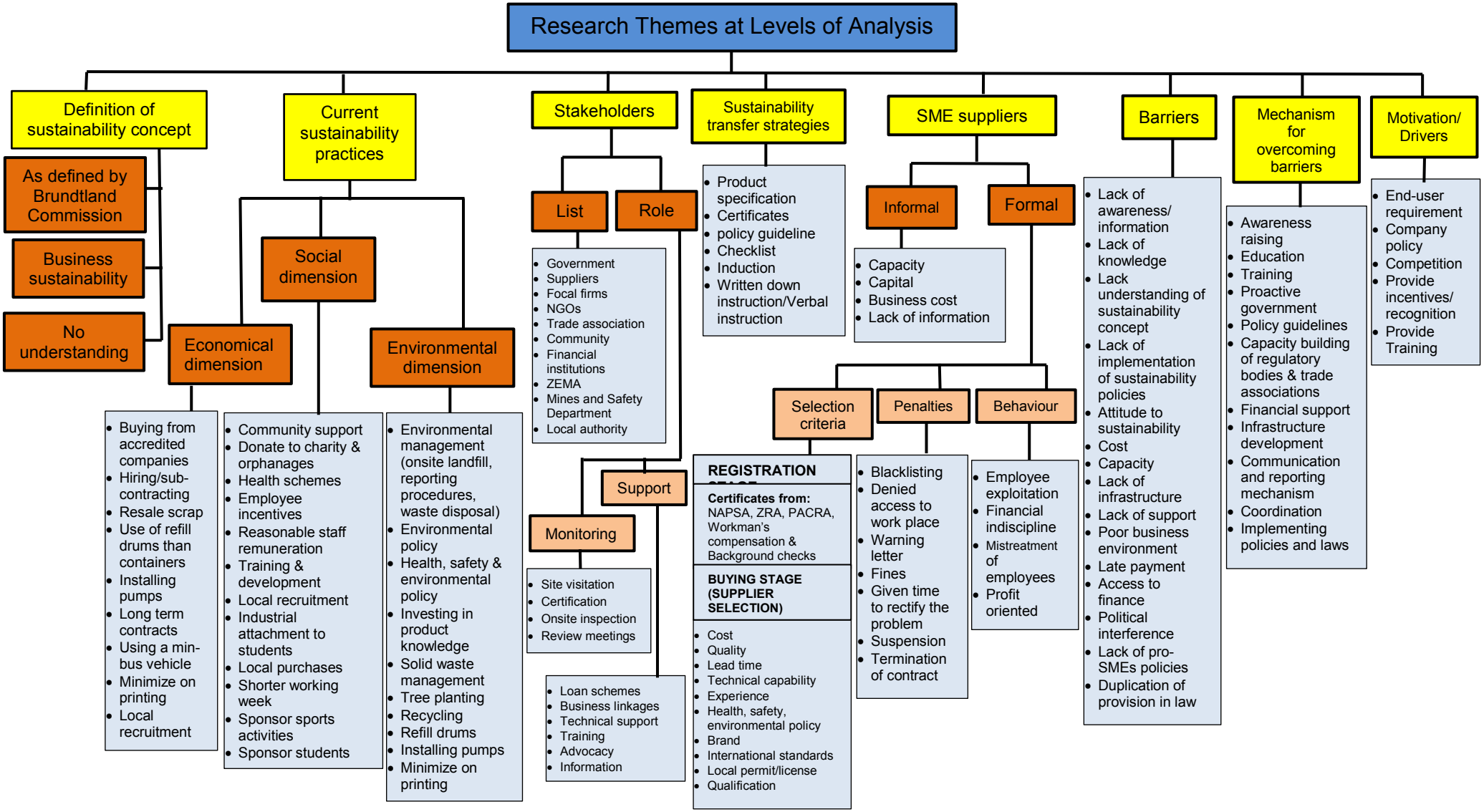


Figure 5.1: Summary of the research themes at the levels of analysis

Source: Author's own

Table 5.1: Summary of the interviews conducted

No	Organization	Position	Years with Firm	Years with Industry	Sex	Qualification	Date Of Interview	Time	Duration (Minutes)
1	A1	Purchasing Superintendent	10	10	M	Masters	24/01/2017	09:06	24
2	A2	Source Specialist	7	14	F	Degree	27/01/2017	19.49	35
3	A3	Senior Commercial buyer -Service	8	8	M	Degree	27/01/2017	17:44	25
4	A4	Contract Specialist	1.3	2	F	Degree	29/01/2017	09:14	34
5	A5	Senior Buyer Services	1	10	F	Degree	29/01/2017	16:57	34
6	A6	Procurement Controller	6	7	M	Degree	30/01/2017	19:05	17
7	A7	Ward Councillor/Buying Superintendent-Projects	15	15	M	Degree	31/01/2017	09:46	61
8	B1	Owner	4	4	M	High school	22/01/2017	12:50	10
9	B2	Owner	5	5	M	Diploma	22/01/2017	14:56	25
10	B3	Worker	10	10	M	Grade seven	22/01/2017	14:28	13
11	B4	Owner	10	10	M	High school	23/01/2017	12:04	20
12	B5	Owner	3	15	M	Grade Seven	24/01/2017	17:14	13
13	B6	Director	6	8	M	Certificate	01/02/2017	01:09	26
14	B7	Director	7	37	M	Degree	02/02/2017	10:54	26
15	B8	Accounts Assistants	2	2	M	Diploma	02/02/2017	12:56	20
16	B9	Managing Director	11	15	M	Diploma	19/01/2017	09:59	31
17	B10	Owner	4	35	M	Certificate	23/01/2017	10:25	32
18	B11	Owner	5	9	F	Diploma	24/01/2017	09:16	44

19	B12	Projects Manager	4	30	M	Degree	24/01/2017	14:04	27
20	B13	Manager	7	15	M	Degree	24/01/2017	16:12	23
21	B14	Operations Director	12	12	M	Diploma	25/01/2017	08:43	26
22	B15	Internal Sales Administrated	5	6	M	Degree	27/01/2017	15:15	22
23	B16	Director	13	15	M	Diploma	30/01/2017	09:46	29
24	B17	Director	25	30	M	Masters	31/01/2017	12:12	57
25	B18	Managing Director	2	14	M	Diploma	01/02/2017	08:06	39
26	B19	Managing Director	15	17	M	Degree	01/02/2017	09:04	29
27	B20	Technical Sales Manager	1.6	3	M	Degree	01/02/2017	18:01	42
28	B21	Director	8	8	M	High School	05/02/2017	16:21	27
29	B22	Director	7	7	M	Masters	07/02/2017	12:48	26
30	B23	Director	4	20	M	Grade Seven	27/01/2017	10:08	41
		Supervisor	3	23	M	High School			
31	C11	Inspector of Mines	3	3	M	Degree	01/02/2017	13:09	39
32	C12	PRO	4	15	F	Degree	13/02/2017	15:19	10
33	C13	Manager Enterprise Development	8	11	M	Masters	20/02/2017	13:47	43
34	C14	Chief Health Inspector	17	17	F	Masters	25/01/2017	14:52	26
35	C15	Team Leader	16	16	M	Degree	15/02/2017	11:18	25
36	C16	President	13	18	M	Masters	15/02/2017	09:03	44
37	C17	Manager	9	9	F	Masters	17/02/2017	10:12	12
38	C18	Principal Inspector	25	25	M	Postgraduate	06/02/2017	09:28	54

39	C21	Secretary-General/ SME Director	12	12	M	Certificate	26/01/2017	09:39	55
40	C22	Committee Member/SME owner	10	13	M	Degree	26/01/2017	11:04	48
41	C23	General Secretary	15	20	M	Diploma	01/02/2017	11:46	68
42	C24	Deputy Registrar	1.5	15	M	Masters	02/02/2017	13:13	47
43	C25	Research Officer	1.5	4	M	Degree	15/02/2017	15:21	29
44	C26	Acting CEO	3	3	M	Postgraduate	20/02/2017	10:06	71
45	C27	Research & Market Officer	7	7	F	Degree	24/01/2017	12:36	20
46	C31	Ward councillor	1	3	M	Degree	01/02/2017	14:42	23
47	C32	Ward Councillor	20	23	M	Degree	01/02/2017	15:14	48
48	C33	Community member 1	N/A	N/A	M	Postgraduate	7/02/2017	18:57	29
49	C34	Community member 2	N/A	N/A	M	Degree	07/02/2017	20:06	36
50	C35	Community member 3	N/A	N/A	M	Degree	07/02/2017	16:04	18

5.2 Analysis of Sustainability Practices among the SME suppliers

This section reveals the findings of the analysis of the sustainability practices among the SME suppliers in Zambia's mining SC. It also sets the context for more detailed analysis of SMEs' sustainability practices in the Zambian context in the mining industry.

The questions asked during the interviews sought to answer the broader question: "*Have the SME suppliers in the mining SC adopted sustainability practices?"* More specifically, from the stakeholder perspective, which is argued in this research to influence SMEs' sustainability initiatives, "*How are the SME suppliers influenced by the stakeholders when adopting sustainability practices in the mining SC?"* The participants gave varying views, which are presented below, starting with their interpretation of the sustainability concept. The interpretation of the sustainability concept may influence the degree of engagement in sustainability among the SMEs involved.

However, before the researcher presents the findings, it is imperative to give a brief overview of the trading system between the focal firms and SME suppliers in the mining SC. The leading firms in the mining SC are the multi-national mining corporations that govern the SC; as such they make all the strategic decisions of the SC and have direct contacts with end customers. The leading firms (focal firms) also select the suppliers; hence, the stakeholders focus their attention on them. Therefore, for an SME to be a supplier in the mining SC, it must be a formally registered firm (formal SME), be registered with the mining firms and practice sustainability (i.e. comply with the health, safety and environmental regulations which apply to the industry) as dictated by the mining firms. That is the SME suppliers must comply with the large multinational corporations' sustainability policies, with failure to do so resulting in a loss of business. Therefore, the implication is that only formal SMEs can trade with the mining firms. The informal SMEs only participate in the SC as sub-suppliers (second-tier supplier) to the formal SMEs (first-tier suppliers). See Figure 5.2.

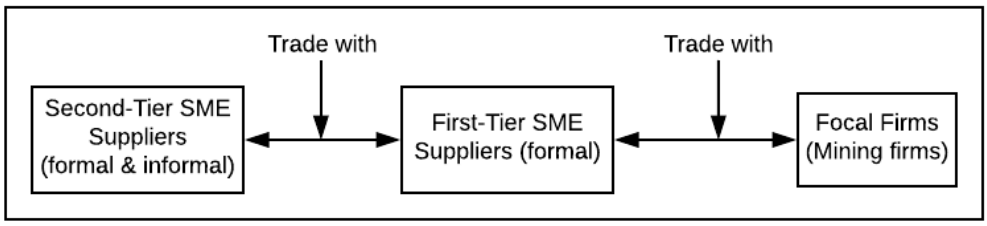


Figure 5.2: The trading system in the mining SC

Source: Author's own

5.2.1 Interpretation of the sustainability concept

The interpretation of the term sustainability by the participants can be classified into two main groups. Out of the fifty (50) participants, twenty-one (21) representing 42% of the respondent sample, understood the term as defined by the Brundtland Commission, (economic, social and environmental dimensions). Twenty-six (26) participants, representing 52% of the respondent sample, interpreted the sustainability concept from a business decision making perspective (business sustainability). That is the second group were saying that it relates to keeping a business viable. Three (3) participants did not understand the concept. The following are some of the responses given by the participants regarding the sustainability concept. They have been pulled across various sectors, the focal firms (A), the SMEs (B) and the stakeholders (C).

> *"Activities that a company or individual does in order to meet the current as well as looking at also the future" by C35* (Community Member)

> *"Activities that probably an organization should do in order to continue business continuity also without affecting the lives operation of the future generation" by A1* (Purchasing Superintendent[3])

[3] A Purchasing Superintendent is the head of sections in a department. His responsibility and duties include; Managing and developing staff in the procurement department; Coordinating the distribution and collection of quotations from suppliers, for direct and stock re-order purchases; Making supplier order selections based on urgency, quotations received and previous experience; Following up on orders placed and to liaise with forwarders/clearing agents to ensure timely delivery; Managing existing and establish new forward purchasing agreements; and Complying with laid down procedures regarding selection of suppliers and administration of documentation.

"… should be along the lines of how you are conducting the government of the day, how they are using resources which won't affect [negatively affect] future generations" by B16 (SME Director)

"I think its development which considers the future generation" by C14 (Chief Health Inspector).

"Use of current resources so that they don't affect future generation" by B2 (SME owner)

*"… is a process of trying to make sure that whatever business activity you are doing now will [be] able to sustain you for more than ten years. It will still be able to generate income for you from the time you started to whatever time you think you are going to get back your cash flow or returns in investment but it should be for more than 10 years" by A2 (*Source Specialist[4]*).*

*"These are practices that certain industries are involved to ensure that the processes they are using are sustainable in terms of cost and processes, also are cost efficient, efficient that there is no wastage. They are practices that help the industry survive" by C24 (*Deputy Registrar*)*

*"… is where development is being achieved and sustaining it for a longer period of time" by B6 (*SME Director*)*

*"These are the practices by companies to ensure continuity of business" by B17 (*SME Director*).*

[4]A Source Specialist is a key member of the procurement team. He is responsibility of sourcing specialised equipment in the procurement team. He makes the sourcing process of a company or institution more efficient. He does this through building relationships with suppliers, negotiating cost and developing agreements that ultimately help a company grow and become more profitable. Should anything change in the sourcing process, they're responsible for renegotiating new contracts as well.

*"Well, sustainability, I think its maintaining one's practice. Like if you find yourself in a practice that is giving you profit and you are getting good business, good business practices, good business relationships with companies. I think it's one way of sustaining or probably hanging on to the business that you have" by B13 (*SME manager*)*

The first 5 quotes refer to sustainability as per the Brundtland commission's definition (environmental, social and economic consideration), while the remaining quotes relate to business sustainability (economic viability).

5.2.2 Current sustainability practices

Before discussing the current sustainability practices by the SMEs in Zambia, it is important to note that the sustainability aspect in the mining SC and indeed Zambia is covered by the health, safety and environmental policy for the mining industry. As such, when the participants were asked about the current sustainability practices, their responses related to health, safety and environment, but they fell under the umbrella of sustainability.

The above interpretation of sustainability clearly shows that it influences the degree of engagement in sustainability practices by the firms in Zambia. It is important to note that most of the SMEs in Zambia are in the business of procurement and supply. They purchase products from original equipment manufacturers (OEMs) and sell them to the end-users, mostly the mining firms. In addition, SMEs in Zambia are forced to be entrepreneurs for their survival (de Kok et al. 2013), as such their prime interest is survival and profit-seeking. However, all suppliers to the mining industry are mandated to adhere to the health, safety and environmental regulations.

In addition, and as discussed in Chapter Two, mining activities are known for their adverse effect on health, safety and environment of communities which in turn affects the potential for long-term sustainability. Thus, the industry is closely monitored by the government and other stakeholders to ensure that the negative impact is minimized and mitigated in accordance with the environmental and

mining laws. Therefore, to ensure that the mining and processing of minerals comply with health, safety and environmental regulations, the mining firms regulate the activities of all the individuals and firms operating within the mining areas. Hence, the SME suppliers are strictly monitored by the safety department of the mining firms and those that flout the regulations are blacklisted and their contracts terminated. The Inspector of Mines confirmed this in the following quote;

> *"The overall responsibility lies with the owner or the mining company…. cos whatever damage happens in the mine, the owner of the mine or developer has to clean up and rehabilitate the land after mining. The contractor is just hired to do a specific job and can go, maybe in 6 months" by C11.*

Therefore, the suppliers (contractors) who register with the mining firms must practice sustainability. However, it is not known if they do the same outside the mining premises, where monitoring is not very strict. It could be perceived that without monitoring, they may disengage from practicing sustainability and revert to the prime interest of profit-seeking, as confirmed by the SME Director;

> *"I want to maximize my profits, so as long as I know there is no one to enforce it and I believe that all my operations have no immediate environmental issues, I will try to give a blind eye to the policy and just do the business and maximize my profit" by B22.*

Accordingly, SMEs in Zambia practice sustainability under close monitoring within the mining premises. However, they perceive that to practice sustainability they need revenue from their business, added B22;

> *"I can't say we are doing much on that one. The only thing I know is I need my workers tomorrow, so I just pay them enough to keep them to myself. Otherwise about other issues not much, in terms of training, in terms of other things No, cos our workforce is really volatile….even jobs, you have a job today, tomorrow you don't have a job so you almost layoff*

everyone…. I can sustain them if I don't have a job for 2-3 months, [not] if 3-4 months goes without work…." by B22.

Therefore, SMEs need to be supported to increase their level of engagement in sustainability practices, especially in relation to providing them with business opportunities to fund sustainable practices. Another SME Director who is also the Committee Member of the Mine Supplier trade association, reported that SMEs might only engage in sustainable practices when they have surplus cash, which is after achieving their primary objective, profit-seeking;

"What I mean is that for you to help someone you need to have some extra cash because you can't help if you don't have any extra surplus" by C22.

Therefore, the level of engagement in sustainability practices by the SMEs can be termed as partial as confirmed by the Operations Director for another SME;

"To be honest on a scale of 1-10, I would give you 3. So, it's partial. The system is forcing us not to practice sustainability. The system is not giving you an opportunity to do that" by B14.

The above responses confirm with the responses given regarding the interpretation sustainability concept, where half the respondents understood sustainability as business sustainability. The following are the sustainability practices reported by the participants. The headings have been categorized as 5.2.2.1, 5.2.2.2 and 5.2.2.3 to show that they are sub-heading of this section, 5.2.2.

5.2.2.1 Economic sustainability

i) **Buying from an accredited company**

Two interviewees commented on this aspect when asked during the interviews. The majority of the SMEs are in procurement and supply businesses, and the most reported sustainable practice involves buying from accredited companies, which in many instances is direct from the Original

Equipment Manufacturers (OEMs) to avoid unnecessary risk down the SC. Although there are a few manufacturing firms in Zambia, SME suppliers still prefer to buy from OEMs because these local manufacturing firms do not have the capacity and skills to compete with OEMs and meet the high-quality standards demanded by the mining companies. This is confirmed in the following quote by a focal firm Source Specialist and the SME Managing Director respectively.

"Most of the Zambian companies might not meet the standard… but then again, you will have to understand we are not a manufacturing country so most of the product which we buy even from the local companies come from outside the country" by A2.

"That's why one of the things we do around here is to ensure that we deal with suppliers that have proper management systems, both general management system and quality management systems" by B18.

ii) **Subcontracting and hiring**

According to one interviewee, at the time of registration with focal firms, SMEs indicate the category of goods or service they trade in or provide. Therefore, when contracted to provide goods SMEs rely on subcontracting and hiring of service and equipment in the areas outside their focus. This helps them channel their limited resources to their core areas to serve their customers better and maximize on profit. For instance, a supplier will hire trucks for transporting the items being supplied. According to the SME owner/manager, they negotiate with the owners of the hired equipment to pay after receiving payment from the focal firms (customers).

Therefore, this practice of subcontracting and hiring benefits various parties, as stated above.

iii) **Use of refill drums instead of containers**

A Purchasing Superintendent reported that his firm once used to be supplied with oil in containers. However, at one stage had so many used oil containers

which posed a challenge disposing of. To remedy the problem, the supplier was asked to supply the firm with drums which could be in strategic places for workers to draw up oil. The drums would then need to be refilled. This move reduced oil spillage and oil cost since the supplier only had to refill the drums using a dedicated vehicle for transporting oil. The customer was no longer charged for the container, but made a one-off payment for the drums.

iv) **Installing pumps**

Another supplier instead chose to install machine pumps for discharging oil when needed instead of refilling drums or containers. The workers then did not have to carry oil in containers any more. This move was economically beneficial, since the end-users were only charged for oil, and environmentally beneficial as the installed machine pumps almost eliminate oil spillage and minimized environmental impact.

v) **Long-term contract**

A long-term contract may allow the SMEs to plan for medium to long-term strategies that would allow them to invest in sustainability activities. For example, the installation of pumps above enabled the suppliers and the focal firm to enter into long-term agreements, hence, offering more economically sustainability in their partnership.

vi) **Use of a minibus**

Another activity that was reported by a respondent is the use of a minibus to transport workers to work site instead of allowing workers to use separate vehicles. Although a director reported this activity, it is worth mentioning because it is unusual in this part of the world to find the use of a minibus for sustainability purpose. Its use enabled the company to save on fuel cost and reduce air pollution from exhaustion. The SME Director reported this;

"There are times when our employees would have to use a bus instead of using the vehicle at times we have situations like that" by B16.

The providing a free transport can also be deemed as employee welfare, hence a social dimension. Furthermore, the strategy acted as a control element since all the workers were able to arrive and leave the workstation at the same time.

vii) **Minimizing on printing**

One manager reported that his company was printing less to minimize the use of printers and to save on paper and energy usage. Thus, this activity is for both economic and environmental dimensions because of a reduction in the input energy and heat emanating from the printers, which can be a nuisance in the tropical climate.

viii) **Local recruitment**

Local recruitment is where a company recruits low-skilled labour within the locality where it is undertaking the work. This activity is economically viable in the sense that the company does not have to transport workers when carrying out work in another town except some technical staff, hence an overall saving on labour cost. Furthermore, low-skilled labour is very cheap in Zambia. On average their wages per month range from K1, 000 to K1, 600 (£85-136). This activity caters for the economic and social dimension, as the local community benefit through the paid wages from the project.

> *"We have a deliberate policy of employing those that are not skilled labour with, as much as possible we want to get them from the locality that they operate" by B13*.

There are other economic activities SME suppliers undertake but those discussed above are the only ones which qualify as economic sustainability activities.

5.2.2.2 Environmental sustainability

As discussed above, a precondition to be a supplier (for the formal SMEs) in the mining industry is to comply with the health, safety and environmental regulations

which apply to the industry. Therefore, SMEs undertake many environmental sustainability activities as follows.

i) **Environmental management**

This was reported by fifteen (15) participants, representing the SMEs, focal firms, NGOs and civic leaders. The firms are involved in environmental management activities or the need to protect the environment as reported by the civic leaders. The activities are those that companies undertake itself, such as on-site landfill, disposing of waste at the designated site and energy conservation. The following are some of the activities as reported by the Source Specialist (A2), SME Director (B21) and Ward Councillor[5] (C31) respectively.

> *"The environmental aspect [company activities and their impact], it is done through environmental department. This department goes around making sure that whatever activities or disposals done at the project plant is properly treated and doesn't harm the environment" by A2.*

> *"For the environment, we are backfilling where there is stagnant water to protect the environment" by B21.*

> *"Yeah, it means you have to come up with some protective measures in terms of protecting land, protecting the environment" by C31.*

ii) **Environmental policy**

Two SMEs managers reported that their companies have an environmental policy that stipulates how they should manage the environment. One SME manager responded as quoted below;

[5]A Ward Councilor is an elected community leader at the ward level. Councilors play a central role in the communication process between the communities they represent and the council, reporting back regularly through ward meetings and assisting the community in identifying needs and priority areas of development, which feeds into the municipality's planning processes.

"In terms of the environment, we have a very good policy and in terms of taking care of the environment we believe that a good environment would prolong our business for generations now" by B13.

However, it is not known whether companies were undertaking activities in line with the policy, commented the president for NGO, C16. According to the NGO president (C16), companies are concentrating more on their production as it is a key activity and the environment is of less importance.

"Yes international and corporate organizations you see an environmental policy which is a leaf and it's disciplined, but to what extent do they undertake their activities in line with the environmental policy" by C16.

iii) **Health, safety & environmental policy**

This activity was mentioned by only two interviewees. The SMEs that do not have the policy to guide them in the environmental management use the policy of the end-user (focal firms). Focal firm participants stated that all suppliers should adhere to the focal firm's regulations even if they have their regulations.

"Most of our jobs are with the mines, so we follow the mining guidelines" by C22.

iv) **Investing in the product knowledge**

Since many SMEs are in the business of procurement and supply, one SME Managing Director (B18) reported that his firm is investing in product knowledge. This is to do the following: (1) to have the knowledge and understand the products they supply; (2) plan how to handle them during transportation, and (3) avoid the products that may affect the environment negatively, as confirmed in the response below;

"As a procurement and supply company, trading company, one of the issues that we know, we invest a lot of time and resources into, is to understand the sort of item that we procure from the various sources. If for example we buy, compressors for equipment in the mines, or you know in some of these industries we supply some of these compressors might actually contain gases that might actually affect the environment, the ozone layer. So we are very very particular to make sure that whatever we get is not something that will have an effect on the environment" by B18.

v) **Solid waste management**

Six respondents reported on this aspect. SMEs reported that they had engaged a Solid Waste company, named as Cop-Waste, to manage their solid waste by collecting and disposing it at the designated landfill site. The following are some of their responses by the SME owner (B11) and manager (B13);

"We have made arrangements with, we pay money to cop-waste to collect our bins when are full" by B11.

"Wastes those are the things we dispose of using Cop-waste which is a company that disposes of industrial waste" by B13.

vi) **Tree planting**

The tree planting activity, which is one of the common and important aspects of environmental management, was reported by only one SME participant, the manager for SME - B13. Deforestation is on the increase in Zambia, due to the demands of trees (logs) for charcoal burning and supporting roof tunnels in the underground mines. Hence, Mwalin Investments have a deliberate program of planting trees every year, which is a good CSR exercise, reported the manager.

vii) **Recycling**

Although recycling is one of the most practiced activities for sustainability, very few companies are involved in recycling. This was only commented upon

by one interviewee. A check at the approved landfill site revealed that the waste was not being separated since the collecting company did not separate it. However, one SME was found to have separate/labelled dustbins for disposing of different categories of waste, showing sustainability consciousness.

The recycling activities reported were those of paper and scrap steel. The used paper was given to a recycling company to dispose of the waste as confirmed by the SME Project manager, while scrap steel was being sold to foundries to help SMEs manage their waste and at the same time earn revenue as reported by another SME Director.

viii) **Other activities**

Other environmental sustainability activities reported by the participants include refilling drums, installing machine pumps and minimizing on printing. These activities cater for more than one sustainability dimension and have been discussed under the economical sustainability above.

Most of the above activities are conducted in the mining areas because of the health, safety and environmental regulation and monitoring by the mining firms.

5.2.2.3 Social sustainability

From, the number of the responses given to the social sustainability, it can be deduced that many firms in Zambia engage in social sustainability compared to environmental and economical sustainability. The following are the social activities reported during the interviews.

i) **Community support**

This activity was mentioned by eleven interviewees (22%). The participants reported that they help as the need arises, and do not have a budget allocation for CSR, except for one firm, B19, that reported a budget of K10,000 (£851.08) per year to support those who may be in need. The Director for SME B23 alluded that when his company is given a contract or is

sub-contracted by another firm, he looks to his unemployed family members and neighbours first, and usually employment is not based on merit. Other activities for the community reported include cleaning the surrounding, prisons, hospitals and contributing towards funerals.

ii) **Donate to charity and orphanages**

Nine participants commented on this activity. Due to HIV/AIDs pandemic, malaria and general poverty levels, there are many orphans in Zambia being cared for by the NGOs and churches. As a way of giving back to the community, many companies in Zambia support a church or an orphanage, as illustrated in the following responses by the SME participants (Projects Manager, Director, and SME Owner) respectively.

"We do charity work like helping churches" by B12

"I mean we're helping a charity organization in chimwemwe called mama waluse" by B16

"We have got like different people, we can give an example of, there's an orphanage in St Anthony which is just next to some compound, yeah, so we are trying to assist in our little way as much as we can" by B11.

iii) **Health schemes**

This activity was mentioned by seven interviewees. The health scheme caters for the employee's health, where a company pays for medical bills either in full, shared ratio or simply allocate an employee a certain amount of funds to support these bills. Some companies extend the schemes to the immediate family members. However, other participants reported not to have health schemes but do assist in paying for medical bills when an employee falls ill. Below are some of the responses provided by the SME participants to illustrate their positive attitude towards employees' health.

"We basically encourage all our employees to select a clinical, hospital of their choice and then we pay the membership fee, annually and then we pay depending on your category" by B19 (SME Managing Director*).*

"Whenever they are sick even though we don't have a health scheme, but the company is able to provide them with health facilities whenever they want to go and the company pays" by B6 (SME Director*).*

"Basically, we support that with payment of cash….to the requirements especially for medicine and doctors' consultation" by B17 (SME Director*).*

"[We have] has one of the best medical facilities in that, though we do not have our hospital, we have an insurance company called SUNCARE, so the company pays for every employee and with SUNCARE you able to access medical care anywhere within the country up to the southern region of Africa" by B15 (SME Internal Sales Administrator*).*

The general consensus was that the health schemes were a sustainable practice and all the firms offered it to their workers. However, not every firm (SMEs) has a formal arrangement, for some, it is done on a case by case basis.

The mining firms also take the employee health very seriously. For example, no persons are allowed to work within the mining premises without undergoing induction. This includes the workers for suppliers and contractors. Furthermore, the government has made it mandatory for all persons working in the mines and quarrying to undergo silicosis examination annually. The companies pay the cost for silicosis[6] examination.

[6] Silicosis is a form of occupational lung diseases caused by inhalation of crystalline silica dust. The examinations conducted by the Mine Safety department are basically aiming to detect the presence of fumes in the body. The test includes urine, x-ray, eye-sight and stool. At the end of the tests, the worker is issued with a silicosis certificate, and depending on the results the worker is either certified, fully fit to work in a mine (mining area) or issued with restrictions.

iv) **Employee incentives**

This activated was reported by six respondents. The incentives depend on the type of the job, and may include lunch provision, transport, safety clothing, paying tuition for employees and sometimes their children, house rental and entertainment allowance. The following responses by the SME participants (a Director, B6 and Accounts Assistant, B8) illustrate the incentives given to employees;

"We provide them with transport, lunch, breakfast and any other incentives…." By B6

"…depending on the type of job, we provide them with lunch, transport" by B8

v) **Staff remuneration**

Four participants commented on staff remuneration. Participants reported giving their workers a good salary to motivate and retain them, confirmed one SME owner/manager.

"The only thing I know is I need my workers tomorrow, so I just pay them enough to keep them to myself" by B22

Another SME Director said the remunerations depend on the workers' qualification, as quoted below;

"The highest gets paid K5, 000 (£425.54) per month and lowered paid gets K1, 500 (£127.66) per month, some get K2, 500 (£212.77) per month depending on the papers" by B21

vi) **Training and development**

Training and development involve training the employees to increase their job performance. It is aimed at helping employees learn a specific skill to improve performance in their current roles. Three (6%) SMEs reported being involved in the training and development of their employee skills. The

employer usually determines training needs.

> *"Sometimes we hire consultants or outside people to come and teach us, so that, you can, you know, to increase their level of competence that at the end of the day we are producing good products which are saleable*" by B17.

vii) **Other social sustainability activities**

The other reported social activities by one or two participants include sponsoring students by paying their tuition and purchasing their school requirements. This was only reported by one participant (SME manager) whose company sponsors students. Equally only one participant (SME Director) reported that his firm offers industrials placement to students from local colleges. Although, only two (4%) participants reported on sponsoring students and offering industrial attachment, the general consensus seems to suggest that more companies either sponsor students or offer industrial attachment or both. Other companies such as SME B13 and SME B20 reported to be sponsoring sports activities. They sponsor football teams in their communities.

Firm A6 support the community by purchasing local materials, while SME B23 and SME B13 support the local communities by recruiting the low-skilled labour within the locality of the project being undertaken, as confirmed in the quote below;

> *"So once you are given that job it is obvious you have to pick workers from the labour from the same community*" by B23.

Furthermore, SME B20 allowed its workers to have a shorter working week by working for 6 hours on Fridays. Thus, motivating the workers by enabling them to spend more time with their families.

These are some of the sustainability activities undertaken by the SMEs as reported during the interviews. It clearly shows that there are more firms

engaged in social sustainability, followed by environmental and lastly economic.

The above reported level of engagement in various sustainable practices illuminates what one participant commented that they partially engage in sustainable practices. The following section discusses the stakeholders responsible for influencing SMEs to engage in sustainability practices.

5.2.3 Stakeholders

The stakeholders identified during the interviews are presented in Figure 5.1, page 158. These are organizations, groups and individuals that affect and are affected by the activities of SMEs and their various roles or mandate in the SC are presented in Table 5.2. Their channels of influence or pressure they exert on the SMEs is through their roles and mandates are shown in Figure 5.2, page 163. Within this grouping, their roles are split into two, monitoring and supporting.

The respondents identified the focal firms (customers), ZEMA, the local authority and the Ministry of Mines and Minerals through the Mine Safety Department as responsible for enforcing sustainability practices and as such are the key stakeholders. The remaining stakeholders have a supporting role.

i) **Monitoring**

The stakeholders with a monitoring role directly influence the SMEs' sustainability practices. As reported in the interviews, two (4%) participants reported that stakeholders monitor the SME suppliers through site visits, while four (8%) participants reported that stakeholders monitor SME suppliers through inspection within the mining premises and SMEs' own premises. However, except for the SMEs in the mining business, the SMEs are rarely visited at their premises unless they are renewing their license by the local authority (Trading license) and ZEMA (environmental license), it was reported during the interviews. This situation may provide the SMEs with an opportunity to conduct themselves contrary to the sustainable practices.

ii) **Supporting**

The stakeholders with supporting roles indirectly influence the SMEs' sustainability practices. Various ways of support were reported during the interviews. For instance, five (10%) participants mentioned loan facility support, two (4%) participants reported business linkages to mainly the large firms and four (8%) participants mentioned technical support. Another 6 (12%) participants mentioned training, while three (6%) participants mentioned advocacy and 6 (12%) participants reported information sharing. The support is aimed at building their capacity for business growth, sustainability practices adoption and implementation, decision-making among others.

The identified stakeholders that monitor and control and support the SMEs are shown in Figure 5.3 below.

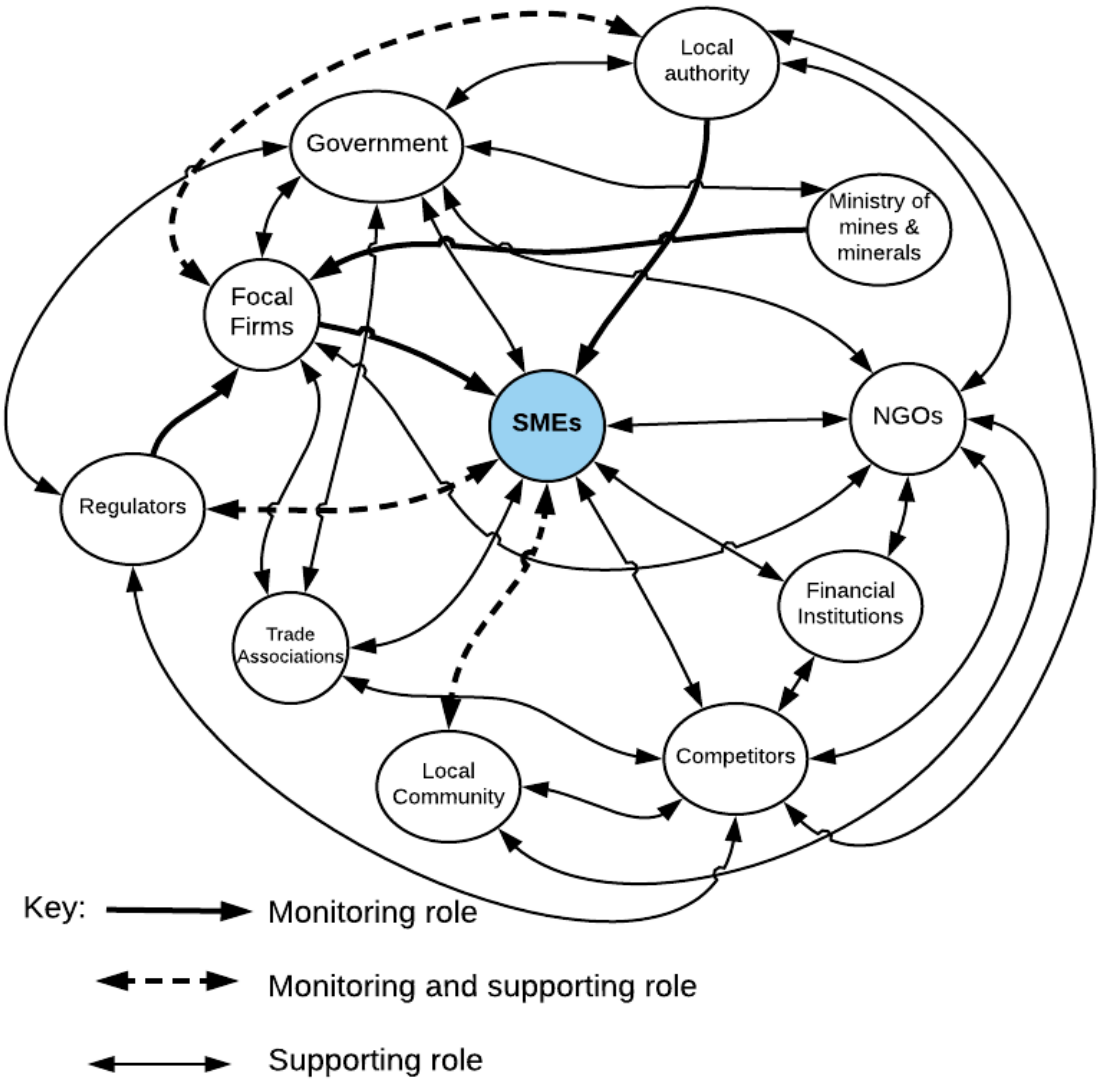


Figure 5.3: Stakeholder influence mapping

Source: Author's own

Table 5.2: Showing the roles and mandates of mining SC Stakeholders

	ORGANIZATIONS	ROLES
Government	ZDA (Zambia Development Agency)	To foster economic growth and development in Zambia through promoting trade and investment and an efficient, effective and coordinated private sector led economic development strategy. The agency also has the challenge to develop an internationally competitive Zambian economy through innovations that promote high skills through training, and provide business for SMEs
	NCC (National Council for Construction)	To promote and build the capacity of the Zambian construction industry
	ZEMA (Zambia Environmental Management Agency)	To do all such things as are necessary to ensure the sustainable management of natural resources and protection of the environment, and the prevention and control of pollution through the use of statutory instruments and some regulations and regulate the industry by giving out licenses to allow them to practice
	Mines and Minerals department	To look at the safety aspect in the mining industry-all the activities that are to do with mining, exploration or processing of copper
	Local authority	Its government at local level with responsibility to take care of the people of the city. Plan and zone the city so that businesses are conducted in the industrial area and not residential areas and provide services such as water, and control businesses allowed by issuing licenses.
	PACRA (Patents and Companies Registration Agency)	To provide efficient and effective registration and protection systems for commercial and intellectual property rights in order to protect innovation and orderly trade for the benefit of the nation.
	NAPSA (National Pension Scheme Authority)	NAPSA was formed to provide income security against the risk arising from retirement (old age), death and invalidity. Its mandate is to register members, collect their contributions, and invest the funds and finally payment of benefits to its members.
	ZRA (Zambia Revenue Authority)	To optimize and sustain revenue collection through integrated, efficient, cost effective and transparent systems, professionally managed to meet the expectations of all stakeholders.
	Workers' compensation fund	To provide for the payment of compensation to workers disabled by accident occurring or diseases contracted in the course of employment or to the dependents of workers who die as a result of accidents or diseases.
NGOs	ZACCI (Zambia Chamber of Commerce and Industry)	It is the voice of the private sector that strives to create a conducive business environment for economic growth in Zambia. It represents private sector interests towards the government for the benefit of Zambia's private sector by advocating for policies that will positively impact on the business, Provide mentorship programs such as training, trade mission and business linkage between small business and large firms.
	EIZ (Engineering Institute of Zambia)	To promote and regulate the engineering profession in the country and register engineering professionals and firms that have done or involved in engineering works
	ZAM (Zambia Association of Manufacturers)	To promote the development of the manufacturing sector in Zambia, provide business development support services to manufacturing companies and provide policy advocacy on behalf of the entire sector.
	ZANEEP (Zambia Network of Environmental Educators and Practitioners)	It is a network of environmental educators and practitioners, whose core activities are to promote, create, and contribute to quality environmental education practices and awareness to enhance protection, conservation and sustainable use of the environment through coordinated and enhanced

		networking among partners and stakeholders, which will contribute towards strengthening of environmental education processes in Zambia.
	ZCSMBA (Zambia Chamber of Small and Medium Business Association)	To protect and promotion of trade, business, trade and services, influencing policy decisions, collecting and disseminating relevant information and fostering relationships between government, business and society. It also lobbies and provides advocacy to create a more enabling environment for MSMEs through providing and facilitating Business Development Services (BDS) to MSMEs, in addition to providing training.
	Local Chamber of Commerce	Its primary role is that of lobbying and representing and intervening for its members concerning trade, civic and industrial matters. It monitors the business environment and is a voice of the business community. The government determines the business environment which through policies, taxes and regulatory framework. These may not be in the interest of the business community, and the role of the chamber is to represent their interest, since a business is continually affected by the environment within which operates and to keep abreast with the changing environment, the chamber monitors it on behalf of the business community while the business peons concentrate on running their business.
	GLM (Green Living Movement)	Promoting and supporting sustainable rural and urban development through community empowerment and sound management and utilization of natural resources, and raising awareness of the climate change. It does this by providing an alternative development approach to the conventional and ineffective top-down approaches and to contribute to the eradication of all forms of poverty in Zambia.
Trade Association	NAMSSC (National Association of Medium and Small-Scale Contractors)	To ensure that goods and services provided by members, are of high standard quality and not a danger to the public. To represent its members when faced with difficulties. To facilitate training for members, and lobby government to create an enabling environment and participate in policy development.
	Mine Supplier & Contractors Association of Zambia	It is an advocacy and networking group that aims to, inter alia (among other things), encourage, foster and promote the interests of contractors and suppliers to the Mining industry.
Others	Focal firm	To adhere to the regulations and development of policy guidelines for sustainable development, monitoring and partner with the local authority in promoting sustainable development within the mining areas
	Suppliers	To adhere to the regulations, and participate in promoting sustainable development
	Financial Institutions	To provide financial support
	Local Community	Monitoring the activities of firms that reside within their community and acting as whistle-blower for firms polluting the environment

5.2.4 Sustainability transfer strategies

To make a SC sustainable, the sustainability practices need to be extended to all the SC members. In this study, the focus was to determine how the sustainability practices are extended from the focal firms to the first-tier and then to the second-tier suppliers. It is important to note that the SME suppliers fall into two categories: 1). those who supply items called suppliers and, 2). those who provide labour and service such as maintenance works, erecting building and so on called contractors. SME suppliers denote both the suppliers and the contractors. The sustainability practices are extended to other SC members in the following ways as reported by the participants.

5.2.4.1 Product specification

This method is used when a focal firm wants an item supplied to them. Since the SME suppliers buy the item from other vendors or manufacturers as shown in Figure 5.4, the selected SME is issued with the product specification by the focal firm, which it then issues to the sub-supplier or OEMs, as confirmed by the SME owner.

> *"The end-user just issue product specs and this is what is passed to sub-suppliers. Safety instructions are given each day by the mines, end-user*" by B10.

The product specification may also include the quality levels, said another SME Director.

> "*We look at the quality of items and product information for marketing the product*" by B6.

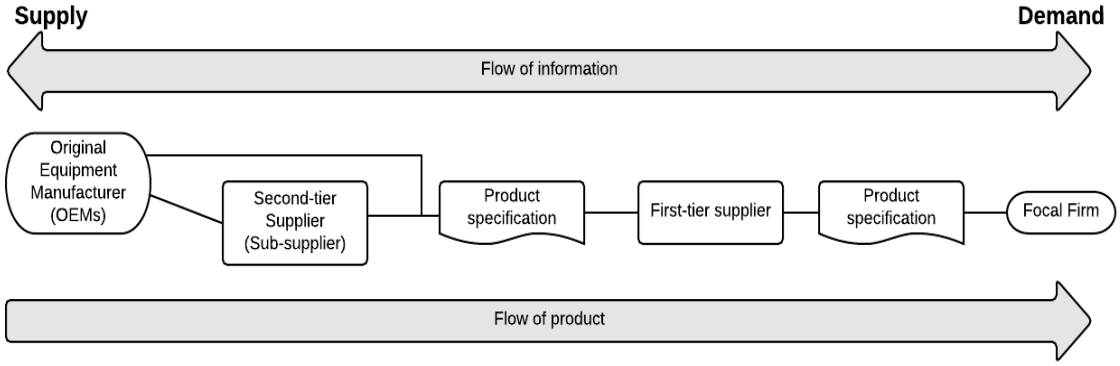


Figure 5.4: Order acquisition flow-chart

Source: Author's own

5.2.4.2 Certificates

This activity was mentioned by only four interviewees (8%). The use of certificates applies when a firm needs to demonstrate its capability in supplying and handling the particular product category. Several certificates may be needed from the suppliers depending on the product type.

i) **Environmental management certificate**

When the item(s) to be supplied is hazardous, the supplier is required to obtain an environmental management certificate from ZEMA. The certificate is there to show that the supplier is qualified to handle hazardous items.

ii) **Origin of manufacture certificate**

This certificate is obtained for verifying the source for the items being supplied. This is so because many suppliers in Zambia do not manufacture but procure the items from other suppliers or manufacturers such as OEMs.

iii) **International standards certificates**

These certificates apply to the manufacturing SMEs. Although they are issued with product specifications, they must show that they are accredited for the international standards for quality (ISO 9001) and the environment (ISO 14001).

5.2.4.3 Policy guidelines

The policy guidelines are written down instructions issued to the contractors, documenting the standards they are expected to meet, and was mentioned by four interviewees. The guidelines will also include the procedures to be followed when carrying out the work, such as PPE, safety and environmental issues and other things they must be on a lookout. Focal firm issues the guidelines to first tier SMEs and from first-tier SMEs to second-tier SMEs.

However, when a contractor, sub-contracts another SME, written and verbal instructions is issued to ensure the sub-contracted SME understand.

5.2.4.4 Checklist

As mentioned by one interviewee, checklists are there for checking what has been supplied and/or what has been done, the method or steps followed. Checklist reinforces other transfer strategies.

5.2.4.5 Induction

Before a supplier or a contractor is allowed to work in the mining areas, their workers need to be inducted. This is in addition to receiving policy guidelines and providing all the necessary certificates. Induction involves training the workers for a minimum period of six days so that they are conversant with the mining regulations and adhere to all the standards of the focal firms, as stated by the Source Specialist (a member of procurement team responsible for sourcing specialised equipment, for more details see footnote 4 page 164), and three other interviewees.

> *"The moment you get a contract with us, whatever safety standards you had somewhere else is not our business when you come on to our premises, you adhere to our safety standards you adhere to our environmental standards, adhere to our anti-corruption standards., those are not negotiable"* by A2

5.2.5 SME suppliers and sustainability

Most participants agreed that many firms in Zambia are either Micro, Small or Medium Enterprises, and that majority of them are in the informal business of procurement and supply. These individuals become entrepreneurs in order to put food on the table due to lack of employment, as echoed by the SME Operations Director;

> *"We have no employment so we resort to becoming business people and contractors in order to earn a living…"by B14.*

According to La Hovary (2013), informal entrepreneurs are initially pushed to start own business, some due to their dynamism have been able to break out of poverty. Consequently, most of the SMEs in Zambia are either informal or formal but involved in the illegal business to boost their earning by avoiding paying taxes.

However, to qualify and supply (trade) with the mining industry in Zambia, the SME has to be formally registered in Zambia and returning tax, suggesting that the informal SMEs cannot engage into a business transaction with the mining firms directly. In the mining industry, the informal suppliers are commonly known as *Jerabos*. Since the mining companies cannot trade with them, the Jerabos (informal SMEs) work in collaboration with the registered suppliers to supply their products. They also provide formal SMEs with soft loans since they face challenges accessing finance from financial institutions, as reported by the SME Owner who is also a Secretary-General for the Mine Suppliers' association.

> *"Jerabos some have a lot of money in their hands so they tend to go through these companies that are registered with either Mopani, KCM or Kansanshi but because it's easier for them to do that rather than forming their own companies. They are like money loan sharks to these other companies…. because the banks like I said, sometimes it is challenging to seat before the banker to say I need k10, 000* (£851.08) *for my order, it's very hard for our workers so they go to these loan shakes they loan you they give you a few days to pay…"* by C21.

The following are the reported reasons the informal SMEs do not register their companies;

i) **Lack of capacity**. This activity was mentioned by only two interviewees. Entrepreneurs avoid registering their companies due to insufficient capacity to meet large demand from customers, as such would rather continue to trade on a small scale, commented the informal SME owner.

> *"You can register the company and just you don't have business, when they give you business, you don't have you fail to commit to supplying the items they have given you" by B7*

Another informal SME owner (B2) had this to say for remaining in the informal sector;

> *"First, we want the business to grow, so that even if they ask us to supply them a lot of things we are able" by B2*

ii) **Lack of capital.** Entrepreneurs avoid registering their companies due to lack of start-up capital, as reported by two (2) participants. This is because SMEs have a challenge obtaining start-up capital from financial institutions for their business, illustrated by one informal SME owner;

> *"The challenges for now it's just the capital, because registering the company you need to have at least something so that at least when you start…" by B7*

The banks do not trust the SMEs due to their financial indiscipline. For example, it was reported by the SME owner/Secretary-General (C21) that SMEs would rather purchase expensive vehicles or go for overseas holiday just after obtaining a loan, than channelling the money into their business.

> "*He was walking coming to the bank now he parks his BMW there and then you start wondering is he going to pay back the money*" by C21

iii) **Business cost**. When discussing business costs, three interviewees mentioned about this activity. In Zambia, registering a company is a long and cumbersome process. There are so many licenses required before a company is considered fully registered. The following are the steps that are involved in registering a business or company in Zambia, as shown in Table 5.3 below.

Table 5.3: Procedure for registering a company in Zambia

STEP	AUTHORITY	PURPOSE	COMMENT
1	PACRA	Check name for Uniqueness	As a first step the business name or the name of the company that has to be registered should be checked for uniqueness with the PACRA.
2	PACRA	Register the company	To obtain a certificate of incorporation and the certificate of share capital
3	ZRA	Corporate Tax	To register for corporate tax.
4	NAPSA	Social Security	To register with NAPSA, the Employer must file an Employer registration form and attach a copy of the company's certificate of incorporation. The Employees must complete a membership registration form and attach copies of their National Registration Cards.
5	Local Authority	Business Levy	All Businesses are required to pay a business levy to commence business activities to the city council. The local authority is responsible for planning and zoning the city and providing services such as water, roads and collection of waste
6	ZRA	Value added tax (VAT)	To obtain a VAT tax number, promoters must file the certificate of incorporation.
7	Workers' Compensation Fund	Payment of compensation to workers	Workers' compensation fund, which covers employers and provides payment of compensation to workers disabled by accidents occurring or diseases contracted during employment or to the dependents of the workers who die because of accidents or diseases.

In addition, the application at each step takes time and is not free. The applicant has to pay for the license and application processing, and sometimes legal fees. Once the business is registered, it has to pay tax and VAT (currently pegged at 16%), almost monthly. All these hurdles discourage people from registering their businesses.

The licenses in Table 5.3 may not be the only ones for registering a company in Zambia. Depending on the type of business, there could be additional licenses. For example, a company that handles hazardous substances would need to obtain a certificate from ZEMA (Zambia Environmental Management Agency) and so on, as confirmed by the Development Enterprise Manager;

> *"The cost that comes with formalization so some informal sector operators feel that if they register with PACRA the next thing to register with ZRA and then when you register with ZRA tax is involved"* by C13

iv) **Lack of information and awareness.** This activity was mentioned by only three interviewees (6%). According to one participant, the informal sector has not been made aware and as such, they lack information on the benefits of formalizing their businesses. Stakeholders have not reached out to them and educate them on the importance of registering their companies. According to Azmat and Samaratunge (2009) and La Hovary (2013), the informal SMEs assumes that they are able to earn more than their formal counterpart as informal actors and as such choose to remain out of the main circuits of market exchange and state protective systems. In addition, they are not growth-oriented, as confirmed by the Manager Enterprise Development.

> *"The reason these SMEs don't formalize their business is lack information, and we haven't reached out enough to sensitize them on the benefits of formalization. There's also lack of information because when you are growth-oriented, when you want to access a tender for example, big businesses will require you to be formalized, they'll ask for a certificate of incorporation, tax clearance, etc. So, that gives you access to the market*

particular for a growth oriented SMEs if you want to grow and come out of that bracket of an informal sector" by C13

5.2.5.1 Supplier selection criteria

In order for the SME to engage in a business transaction with the mining firm, it must be registered in the database of the mining firms in different categories. The majority of respondents reported that the selection of suppliers to the mining industry is in two stages.

i) **The registration stage**

This is the registration of a formal SME to the mining firm's database. It is categorized as the first stage, which the mining firms use for authenticating the ownership of the company and registration with the relevant authorities in Zambia. The mining firms (focal firms) use this stage for checking the SME's background in order to avoid engaging in a business transaction with the unregistered (informal) SMEs. As such, the SME applying to be a supplier must submit the following documents (certificates) together with the registration application. The certificates are obtained at the registration stage of the company as outlined in Table 5.3 above.

a) PACRA certificate, for proof of registration in Zambia.
b) NASPA certificate, to prove that it contributes towards its workers' pension scheme; this concerns only those companies that provide labour.
c) Tax clearance certificate, to prove that it returns tax regularly. Since the tax is returned monthly, tax clearance is submitted each time of bidding and invoicing.
d) Workman's compensation certificate to show that the company contributes to the fund, which acts as an insurance for workers in case of an accident resulting in an injury or death of the worker. However, this only applies to companies that provide labour.
e) The total cost of ownership, for determining the company shareholders, whether local or foreign. The mining firms are required to support local SMEs by giving them business. Unfortunately, there is currently no agreed

definition to distinguish between a local and a foreign company. As such mining firms qualify any company registered in Zambia as local, a situation which does not benefit the indigenous local SMEs because all firms operating in Zambia have to be registered locally, this qualifies the foreign SMEs as local SMEs as well. Therefore, foreign SMEs have taken advantage of this ambiguity in the agreed definition to benefit from the mining industry as local companies.

"*There should be that kind of qualification when we say its local Zambian, it must have indigenous Zambian shareholder or something*" by B17.

In addition, to providing the above documents, the applicant must state the area they trade in such as the supplier of chemicals, supplier of hardware, labour hire, contractor and so on. The background check may also involve checking for the company's code of ethics, child abuse, human rights and anti-corruption.

ii) **Evaluation and buying (job) stage**

This applies to only the suppliers registered in the focal firms' database. According to a Senior Buyer-Services[7] (A5), when a focal firm wants to buy any equipment, the user department will pass the product specification to the purchasing department, which will send inquiries to the suppliers in its database registered in the category of the equipment to be purchased, inviting them to bid. In the bidding document, the suppliers will state the cost, lead time, product specification, brand, among others, which the focal firm use for evaluation. The focal firm (buyer) allow receiving a maximum of 10 but not less than 3 bids.

[7]A Senior Buyer Services is a member of the procurement team in charge of a team of buyers. His responsibility and duties include; finding suppliers, negotiating contracts and seeking ways to reduce costs, improve quality and increase customer satisfaction.

"We invite a maximum of 7 suppliers by sending tenders. These have to be registered with Mopani as such should have worker's compensation, tax clearance" by A5.

Once the bids have been received, the supplier is selected in consultation with the user department based on economic criteria and/or environmental criteria and/or social criteria, depending on the criteria prioritized by the buying firm, stated the Source Specialist.

"Consultations are made concerning which brands are preferable, and then a recommendation is made to buy that… so it might not necessarily be the cheapest tool box, but maybe the best brand offer" by A2

Most often the selection criteria are economic criteria of cost, quality and lead time, as reported by the SME owner and the Source Specialist.

"*The main thing that that mine is a concern just on cost, quality and delivery time*" by B4

"We could adjudicate on lead time, on quality or make being offered" by A2

Since most of the suppliers are in procurement and supply business, the rating of the product is of interest and not the company or the person supplying the product. As such, they procure most of the products from accredited manufacturers, such as OEMs, affirmed the Source Specialist.

"*We are more interested in the rating of the product (brand) rather than the rating of the person [firm] bringing it*" by A2

The sustainability criteria used, as reported during the interviews are environment aspect, safety aspect, international standards, local permit/license and health, safety and environmental policy. Other selection criteria reported include experience, qualification and technical capability.

5.2.5.2 Penalties

These are the sanctions imposed on the firms and individuals that fail to comply with the health, safety and environmental regulations. Going by the responses given during the interviews the sanctions are mostly applied to the upstream firms in the SC. That is the end users impose the sanctions on the suppliers that fail to meet their demands.

There is a range of penalties that apply to the non-compliant firms and individuals depending on the category of the offence committed, as affirmed by a Senior Buyer services.

> *"Depending on the category of offences, its either we fine or cut from their pay or give them a warning letter or we give them a warning for poor performance, meaning it will remain in their record and may affect them in future by not being chosen" by A5.*

However, there is no general consensus as to the standard penalties for standard activities. It is very much a case by case basis.

The following are the sanctions revealed by the respondents during the interviews.

i) **Blacklisting**

Based on the five (5) interviewees' responses, blacklisting appears to be a preferred sanction by the first-tier SME buyers to second-tier suppliers. This may include failing to supply the agreed product qualities or specifications or for providing misleading information, as acknowledged by the SME Managing Director in the quote below.

> *"If they lie to us that they are ISO accredited then we discover they are not. It's a very competitive world now. When that happens, we will blacklist them, we will never buy from them" by B9.*

However, the sanction is not imposed immediately. The offending firm is given time to come good, by continuing to supply the items to complete the order. SMEs cannot afford to cancel a contract and engage other firms due to their limited capital; as such they would rather negotiate with the offending firm to honour the contract. Once the item has been supplied in full, it is never to be engaged again, as confirmed by the SME Project Manager.

> *"For us, we don't penalize them, but we talk to them, encourage them and then the next time around we won't subcontract them or we can remove them from the contact list because we are also being monitored…"* by B12

However, when the offending firm is from downstream, the upstream firm is more cautious when applying the sanctions since in most cases, the offence is none or late payment. For instance, during the interviews, one SME manager reported that his firm was owed about K500, 000, (£42, 554). The SME, instead of taking a drastic measure that would have involved terminating the contract, instead enter a cash basis agreement, where all future items to be supplied are only completed upon payment so that the debt does not accumulate.

ii) **Deny access to work-place**

The individuals that do not have personal protective equipment (PPE), wrong PPE or incomplete PPE are denied access to the mining premises by the focal firms, as affirmed by the SME owner. One other interviewee commented on this aspect:-

> *"We face a penalty for non-safety clothes-you won't be allowed to carry out work until you provide workers with safety clothes"* by B10.

iii) **Warning letter**

According to the Buying Superintendent and one SME owner, a warning letter is issued for such offences as poor performance and for not practicing safety.

iv) **Fines**

The fines may be applied by the focal firm, local authority and the regulator going by the responses from seven (7) participants. The amount to be paid varies depending on the offense. The SME Director reported a fine of K2, 000 to 3, 000 (£170 to £255) for an offense.

"We pay in the range of K2, 000-K3, 000 for any pit with stagnate water per year" by B21.

In other cases, the amounts are determined by the court.

v) **Given time to rectify the problem**

According to the Source Specialist, this sanction depends on the circumstances and is usually followed by a much severe sanction such as termination of a contract, if the offender fails to rectify the problem within the given duration.

vi) **Suspension**

Three (3) participants reported on this penalty, and is an alternative to the above sanction. However, in this case, the offending firm is prevented from conducting its usual business for a specified period and pending payment of a fine.

vii) **Termination of a contract**

This sanction is applied by the focal firms and was mentioned by seven interviewees. A contract is terminated for offenses such as breaching the environmental policy, human right policy, fatal accidents, as affirmed by the Senior Buyer-services and Source Specialist, respectively.

"If there is a fatal accident for not following safety measures, e.g. someone is injured the contract will be terminated" by A5

"*When we find ourselves in a situation like that and it's likely to breach our own standards the environmental policy, anti-corruption policy or human*

right policy, then we won't deal with them because there is no compromise with that" by A2.

However, of the above penalties the most enforced penalty is blacklisting by the paying (buying) firms, not satisfied with the suppliers.

5.2.5.3 SME behaviour

SME behaviour is an important aspect when considering engaging in sustainability. According to Hsu and Hu (2008), a sustainability agenda is a long-term endeavour that increases the overall product cost. Therefore, sustainability implementation requires patience and long-term commitment on behalf of an individual planning to implement sustainability practices.

According to the general consensus, SMEs in Zambia are profit-oriented, as such; they focus on the current needs and not the future needs. They aim at maximizing profit margins by reducing the cost of production, and in the process compromise on quality and mistreat and exploit their employees by underpaying, as reported by the SME Director (B13) and a community member (C34) in the following quotes;

"Most Zambian firms are not consistent with the quality, sometimes they compromise or they think about money first than to deliver a quality job all the time" by B16.

"*When it comes to paying the worker… any amount will do… the workers are threatened with dismissal if they report*" by C34

They also fail to maintain their bank account due to financial indiscipline. One SME director concurred with this statement in the following quote;

"*The one big problem is inconsistency in maintaining our bank accounts*" by B4.

Therefore, their behaviour is profit oriented (12%), focus on the current needs (2%), employee exploitation (4%) and mistreatment (2%) and financial indiscipline (6%). This apparently affects their ability to engage in sustainable practices as it leaves them with no capital for investing in sustainability practices, demotivated workers and without future plans.

5.2.6 Drivers/Motivation to engage in sustainability practices

In order for the SME suppliers to engage in sustainability practices, it must be motivated by something either internally or externally. The following are the factors that motivate the SMEs to engage in sustainability practices, as revealed during the interviews.

i) **End-user requirements**

This activity was mentioned by only five interviewees (10%). As discussed in Chapter Two, mining activities always have a negative impact on health, safety and environment of communities; consequently, the stakeholders demand that the mining firms engage in sustainability practices. In response, the mining firms require that all persons operating within the mining areas adhere to environmental and mining laws as provided in the mines and minerals development acts and mineral resources development policy. This includes the SME suppliers and contractors and all their employees, who are issued with health, safety and environmental guidelines and inducted before being allowed to enter and work within the mining areas. One SME owner confirmed this in the following quote:

> *"The end-user (mining firms) checks for compliance that all workers in the mine areas have safety clothes and issues work instruction by* B10.

SMEs that are engaged in sustainability practices are suppliers to the mining corporations; hence most SMEs practice sustainability due to end-user demands.

ii) **Company policy**

During the interviewees, eight participants commented on company policy. Whereas the previous factor is externally driven, company policy is internally driven. One SME owner reported that they underwent training in policy writing, hence the need to have the own policy, as quoted below.

"It's a company policy because we underwent a development program to write a policy about how to deal with waste" by B17.

Another SME manager reported that engaging in sustainability practices was a result of the company directors;

"…it's a company policy most of the staff, most of the directors when they were forming the company, it was inherent in them….to spread what they believe in" by B3.

iii) **Competition**

One SME owner/manager reported that their actions are driven by their competitors (competition). If they see other rival firms engage in activities that are appealing to the people (customers), such as cleaning the environment or donating to charity, they also imitate or do something similar. This is illustrated in the following quote:

"It can be depending on other firms. We are in a competitive environment so if your friend who is doing your same business does something that people find appealing you are also inevitably pushed to do something similar" by C22.

iv) **Provide incentives or recognition**

There is currently a special award given to companies that offer more help to the community in terms of corporate social responsibility (CSR). However, the award is given to large corporations only. Five participants suggested that if SMEs could also be recognized for their contribution to the community and environmental protection, it would help other SMEs to understand

sustainability and engage in sustainable practices, as affirmed by the Chief Health Inspector.

> *"I think as a local authority we need to introduce even some incentives to motivate the companies and also probably to introduce some awards okay to those companies which are really complying with the laws….where we can be sensitizing the small-scale industries on the issues of sustainability and also to help them understand sustainability so that they can be engaged in sustainable practices*" by C14

The Civic Leader also agreed with the chief health inspector's comment.

> "*If the government can come up with a way of giving incentives to these local firms these people will be motivated and they will be willing to plough back to the to the community. But if there is no that incentive, then it becomes very difficult for them to plough back to the community*" by C31.

v) **Training**

This activity was mentioned by six interviewees (12%). For example, one SME owner that the previous mine owners provided training to the suppliers in safety and environmental management reported one. Hence the Principal Inspector for firm C18 suggested that if the current mine owners could do the same, training could be a good incentive to bring more SMEs on board the sustainability agenda, than concentrating on maximizing return on investment.

The above factors are summarised in Table 5.4.

Table 5.4: The sustainability drivers for SME suppliers and supporting quotes

Driver type	Support quote	Source of the quote
End-user requirements	The end-user (mining firms) check for compliance that all workers in the mine areas have safety clothes and issues work instruction	SME owner (B10)
	The users demand because before they use some of the items on their systems, they also have a certain process that they got to comply with	SME managing director (B18)
	The mines are persistent in sustainable practices, Mopani has got the Mopani way and they insist on the contractors also following the Mopani way…. they insist on their suppliers to follow that as a guideline	SME technical sales manager (B20)
Company policy	It's a company policy because we underwent a development program to write a policy about how to deal with waste	SME director (B17)
	…it's a company policy eeehaa most of the staff, most of the directors when they were forming the company, it was inherent in them….to spread what they believe in	SME manager (B13)
	it's a company policy	SME project manager (B12); SME director (B16); SME owner (B11)
Competition	We are in a competitive environment so if your friend who is doing your same business does something that people find appealing you are also inevitably pushed to do something similar	SME owner/mine supplier association committee member (C22)
Provide incentives or recognition	I think as a local authority we need to introduce even some incentives to motivate the companies and also probably to introduce some awards okay to those companies which are really complying with the laws….where we can be sensitizing the small-scale industries on the issues of sustainability and also to help them understand sustainability so that they can be engaged in sustainable practices	Chief health inspector (C14)
	If the government can come up with a way of giving incentives to these local firms these people will be motivated and they will be willing to plough back to the to the community. But if there is no that incentive, then it becomes very difficult for them to plough back to the community	Ward councillor (C31)
	I think recognition in a way as may be annual awards	SME managing director (B18)
Training	I could be motivated by acquiring more knowledge about SD	SME owner (B2)
	We do actually engage them, for instance we had a training program where we were training small scale miners in environmental management in general focusing on the activities as it were. We've got quite a series of such training sometime back but we may need to do more this time around because people move on as it were.	Principal inspector (C18)

5.2.7 Barriers to sustainability

SMEs in Zambia are inundated with many challenges to practising sustainability. While some of these challenges are common to all SMEs, some novel barriers were discovered during the interviews. The following are the barriers to sustainability reported by the participants, starting with the internal barriers.

5.2.7.1 Internal barriers

i) **Lack of awareness**

This barrier was mentioned by eleven interviewees (only 22%). According to NGO president C16, SMEs have not been made aware of the sustainability concept. They are not proactive; the environmental issues are almost like secondary to them. In addition, sustainability concept is still in its infancy in Zambia so many people do not know, reported the CEO for trade association, C26 as quoted below;

> "*When you are looking at the company level, there is a lot of awareness that needs to be done for the companies to realize that the environment would also be looked after well"* by C26.

Equally, there were examples of where the community did not care about sustainability practices which impacted on dimensions such as social and environmental, e.g. to the extent of littering in public places. This was commented upon during the interviews by a Civic Leader/Buying Superintendent[8] (A7), and was further supported by similar comments from other participants.

> *"I don't think that we have done a lot to sensitize our community when it comes to how they should be looking at the environment, how they should be managing the waste within the community and I don't even think they*

[8]A Buying Superintendent is a member of the procurement team, and head of the buyers reporting to either commercial controller or commercial manager.

know what their right is when it comes to such issues because they should also be expecting something from the municipality so one of the challenges is really sensitisation. It has not been there for a number of years" by A7.

Other participants also made similar comments.

ii) **Lack of knowledge**

Ten interviewees alluded to the lack of knowledge about sustainability. According to the community member (C35), a lot of SMEs have little knowledge about the sustainable practices. A purchasing superintendent also added that SMEs lack knowledge, they do not know about those things. One NGO president summed up this issue as follows;

"I will put it crudely. Lack of knowledge! And I'm using the word crudely because I know companies can invest in professionals that are well vested in environmental management and sustainability, and issues dealing with production etc. from an environmental point of view. But if we opt not to invest in such, then I will put it basically, that is why I'm saying crudely, I will put it as lack of knowledge" by C16.

iii) **Lack of understanding**

This barrier was mentioned by thirty interviewees (60%). The inability to understand the true meaning of sustainability was reported as the biggest challenge. This was confirmed by their responses in the interpretation of the sustainability concept, where more than 50% of the participants understood sustainability concept as referring to business sustainability. The following responses from the community member (C34) and Source Specialist (A2) confirmed it.

"In relation to managing the environment, first they don't understand issues concerning the environment since they entered into business to put food on the table" by C34

"*Mostly understanding, they don't think it's necessary, they don't think it's important. They focus on profit*" by A2.

iv) **Lack of implementation of sustainability policies**

A total of sixteen interviewees (32%) mentioned this barrier. According to the NGO leader, C15, in Zambia, policies are built right at the top of the political pyramid and then the implementers are the people at the bottom. But there is a gap between the understanding of the process of building up to the policy and how the policy is supposed to come down to be implemented by the people at the community level. So, if they do not understand where the government is driving them to, then they will not be an active participant in the process of attaining the objectives which that policy aims to achieve. Lack of implementation was also confirmed by the Civic Leader (A7) and NGO president (C16).

"We have the policies, but then it is the implementation which is a challenge" by A7.

"*Yes, policy-makers in one way could understand, but again its implementation which lacks*" by C16.

v) **Attitude towards sustainability**

This barrier was mentioned by 40% of interviewees. The "I don't care attitude" of the SMEs and the community was purported to be a considerable challenge to sustainability practices. Other than their prime interest being in profit making, SMEs considers their activities too small to have any meaning impact to the environment. Therefore, they do not consider sustainability to be their concern, as discussed in Chapter 2 and 3. Companies (small and large) are only interested in having work done, and not how the work is done, they do not care what happens to the environment in the process, as reported by NGO president.

"Most of these traditional companies they really don't mind what you are going to do with the bush whether you will just cut the trees, have you done the work, yeah, here is the report" by B19.

vi) **Cost**

The cost barrier was mentioned by 26% of interviewees. The Deputy Registrar for trade association, C24, reported that SMEs have no capital and practicing effective sustainability is a costly endeavour. A Project Manager (for SME) also added that when undertaking environmental practices, companies must buy dustbins, disposal equipment and so on, so there is a direct a cost. The cost is much higher at the beginning, as confirmed by the General Secretary for the Mine Supplier and Contractors Association.

"It's costly, it's costly at the beginning" by C23.

The cost is higher at the beginning due to lack of infrastructure needed to support sustainability agenda.

vii) **Capacity**

This barrier was mentioned by six interviewees. To achieve sustainability a firm needs to invest in human resource, so that there is clearly personnel to oversee the implementation of sustainability practices. However, SMEs may have a challenge to invest in such personnel as some do not have the capacity.

Equally the regulatory bodies do not have the capacity to monitor the firms for compliance it was reported during the interviews by the Principal Inspector and the Chief Health Inspector. They do not have the transport to go around and inspect the operations of the firms. As such, they rely on informants, which mean they are reacting to the act already committed when they should be monitoring the firms' operations and activities to prevent negative impact on the environment.

viii) **Lack of infrastructure for sustainability**

Only four interviewees commented on this barrier. In a developing country like Zambia, infrastructure is always of concern. Even when it is there, it's not sufficient. A Research Officer with trade association, C25, commented that there could be some firms and individuals who understand and have information and are aware of sustainability, but are unable to practice due to lack of equipment. The lack of infrastructure to support sustainability practice was also echoed by the SME Managing Director as stated below;

> "*But you know you can see people throwing things over the window everywhere in the street. I think that's a valid point also, where do I throw it because am driving this vehicle the whole day and I have no provision of where to throw it*" by B19.

Another participant commented that lack of infrastructure has added to the already high cost of sustainability. It is a challenge to find a dustbin to dispose of rubbish in Zambia, and the few that are there are overflowing with uncollected rubbish because the local authority has no vehicles to collect the rubbish.

5.2.7.2 External barriers to sustainability

i) **Lack of support**

This barrier was mentioned by ten interviewees (20%). Although SMEs are a major supporter of the focal firms going by the volume of items they supply. Focal firms do not support them with regard to capacity development. Furthermore, the development agreement (DA) that the new mine owners signed with the government of Zambia entitled them to produce for a profit by concentrating on their core business, mining, as affirmed by the Source Specialist below.

> "*Quite frankly, I don't think that… you know at the end of the day… we have to look at the core business and the core business is mining…..the only thing we can do is extend inquires which is an opportunity to quote*

and an opportunity to bid competitively….but we do not like to offer financial support" by A2.

ii) **Access to finance**

A lack of access to finance as a barrier to the uptake of sustainable practice was mentioned by eighteen interviewees. The financial institutions in Zambia have been reluctant to extend the loan facility to the SMEs sector and demand high collateral in the form of fixed assets such a house or farm. Such assets are usually beyond the reach for most SMEs, especially the individuals starting up a business or graduates from colleges or university.

The financial institutions' hesitation can be understood given the SMEs behaviour discussed above. However, the value of the assets demanded as collateral is huge in comparison to the funds the SMEs seek for either start-up capital or order finance. Such situations are discouraging even SMEs that have assets to use as collateral, confirmed the SME director.

"For instance, maybe you want to get a loan of K50, 000 (£4,255.39), and then they ask for collateral that is may be (valued at) K500, 000 (42,533.92)….so you can't risk giving out something that cannot be compared with your collateral" by B16.

Other participants also reported of lack of access to finance, for example the Research Officer (C25) and NGO manager (C17), respectively below.

"*Lack of access to finance may be for them to acquire machinery*" by C25.

"*Access to finance is a challenge*" by C17.

5.2.7.3 Indirect barriers to sustainability

These barriers, although classified as non-sustainability, they do indirectly impact engagement in sustainability, hence the need to discuss them too.

i) **Poor business environment**

This barrier was mentioned by thirty-four interviewees. The participants blamed the government for the poor business environment. They argued that the government was not doing enough to support the indigenous local business due to lack of pro-SME policies to direct the mining firms to give business to SMEs. This affects their cash flow, which ultimately impacts their ability to engage in sustainability practices, reported the SME Owner/Mine suppliers' association committee member.

> *"….business has not been very good. We have not been having surplus cash which I need to take care of community eh [e.g.] the drainage system. I would need surplus cash to take care of it. Community development is there if you are having surplus cash, but right now we are not having much business so that aspect of taking care of the community is not yet there*" by C22.

The SMEs in Zambia comprise of foreign and indigenous local SMEs. However, they are all classified as local SMEs because they are all registered in the country. The foreign SMEs have their origin from other countries, and only have a small workforce in Zambia, but decision making is done in the country of origin. As discussed in Chapter 2, at the time of privatizing the mining industry, the new owners signed a DA, which allowed them to strategize in maximizing return on investment by concentrating on their core business of mining. At the same time, they were allowed to bring suppliers from their country, hence the foreign SMEs. As such the new mine owners give preference to these foreign SMEs they brought into the country. For instance, a mining company from the East prefer to give business to suppliers from the East, South African mining would refer to giving business to South African suppliers and so on. When the indigenous local SME suppliers are given business, it is mostly short-term and unlucrative small jobs which might involve the supply of small components, as argued by one SME owner.

> *"Local Zambian SMEs are given small jobs and big jobs are given to foreigners cos local don't have the skills. If you go to Mopani there are*

those products whereby maybe those which Mopani uses every day, those are on contracts with big firms from outside Zambia" by B10.

The local SMEs are ignored on the pretext of having no skills. Surprisingly, the foreign SMEs still rely on the local labour, with no skills, and only brings a foreign manager who is paid a huge salary while the local employees are paid very meagre wages, confirmed the SME owner/manager as quoted below;

"All the multinational companies would get their labour here. At the end of their day they would only come with their director and they will employ all their labour here" by B13.

Another participant, SME Operations manager (B14), argued that SMEs would want to practice sustainability but they are not being given an opportunity to generate revenue which could be channelled into sustainability activities.

"…it is the system which is forcing [us] not practice sustainability. The system is not giving you an opportunity to do that" by B14.

These conditions have created an unfavourable business environment for indigenous local SMEs.

ii) **Late payment and small profit margins**

This barrier was mentioned by 30% of interviewees. Even for the small jobs that the local SMEs are given, they still face the issue of late payment. The participants reported that the late payment is mostly by the mining firms from East and the government, as confirmed below by the SME Director.

"Challenges we have, at times there's no money, money is stuck in orders that you have serviced, at times you have borrowed from the bank" by B16.

Furthermore, it was reported during the interviews that the mining firms, not only pay late, but also force the suppliers to bring down the cost, leaving the SMEs with small profit margins.

"*SMEs are finding it difficult to have the running capital because by the time they get that money they will be in debt*" by C14.

Therefore, the late payment challenge leaves the SMEs with little to no cash to channel towards sustainability practices.

iii) **Political interference**

Seven participants commented on this barrier during the interviews. In Zambia, individuals and organizations aligned with politicians (in ruling government) tend to get political protection regardless of the crime they commit. For example, the Principal Inspector reported one such incident where the regulatory authority suspended the operating license of a company that had been polluting the environment. However, once the owner of the suspended company informed his friends in government, the license was reinstated within a day. Such actions are anti-sustainability practice and only contribute to destroying the environment further. The SME Managing Director who once worked in government also gave a similar example, as stated below.

"…you know when I would go down there and inspect the mining operation and their underground gate and you discover that it really is not safe for people to work in there and you close it and you begin to drive back to the office but before you reach the office area has been opened….." by B19.

iv) **Lack of pro-SMEs policies**

This barrier was mentioned by only six interviewees (12%). As earlier discussed, the majority of SME suppliers in Zambia are in the business of procurement and supply, importing their supplies from international OEMs. However, the current policies do not support the SMEs due to high import

expenses. As a result, the local SME suppliers have to compete with the international suppliers, as quoted below:

"*The policies which we have right now make it impossible for local suppliers to compete with the international suppliers……or they tend not to participate in the big money items" by A2.*

v) **Duplication of provisions in the law**

It was reported by three participants during interviews that one aspect could be covered by more than one act administered by different institutions. An example is given of the factories act by NGO president, C16.

"If you look at the factories act that is the act that talks about occupational health and safety. Basically, again when we talk about getting so many regulation statutes deposited all over (and) being administered by different institutions that also could go into there. Because, even if their emphasis is on safety, there is another government body that deals with safety. Is it inadequate? I'm not too sure. These are the issues. The overlaps are broad and they are vivid. And I think that also has a negative impact on the operations or effectiveness of these institutions" by C16.

The duplication of provisions in the law may cause conflict between the administering institutions as illustrated in the following example by one participant. The mines and minerals development acts give a license for exploration and mining without considering the provisions of the environmental management act, which prohibit mining in the wetland. This means that if a developer finds mineral deposits in a wetland, he will be prohibited from mining that mineral going by the environmental management act. This is the case with the lower Zambezi issue. The developer, an Australian company was prevented from mining even after finding huge deposits of copper in the Lower Zambezi National Park. Hence, the associated laws need to agree, as the conflicts may affect implementation and monitoring of sustainability practices, commented the Team Leader for NGO (C15).

These barriers to sustainability are summarized as shown in Figure 5.3. The following section discusses the mechanisms suggested during the interviews for overcoming these barriers.

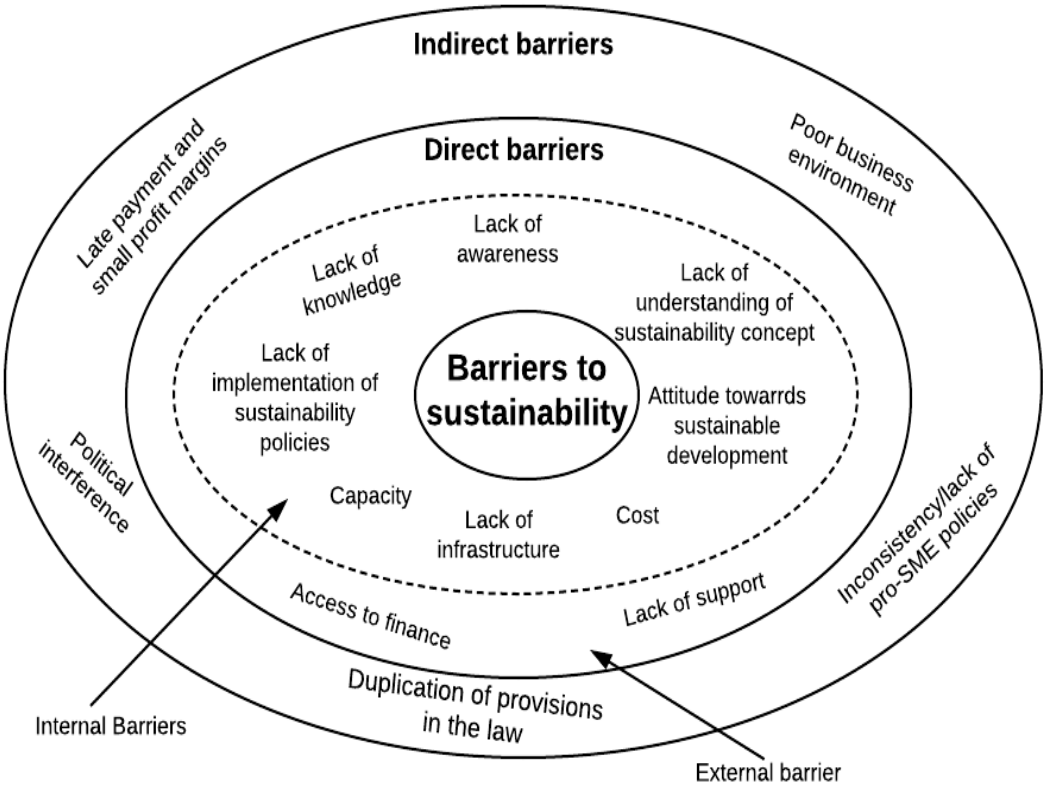


Figure 5.5: Showing the barriers to sustainability

Source: Author's own

5.2.8 Mechanism for overcoming barriers

Several barriers to SME performance were reported by respondents during the interviews, as discussed above. The following are the mechanisms proposed and identified by the respondents to overcome these barriers (those within their control to influence). The implementation of which may also incentivize SMEs to take up sustainability practices.

i) **Awareness raising**

This activity was mentioned by twelve interviewees (24%). Awareness raising was recommended as number one remedy to the barriers, as it will help

SMEs understand the importance of sustainability. The awareness could be through workshops, seminars, public broadcast, media (TV and radio) and role play in community halls. SMEs are more concerned with revenue generation at the expense of environmental degradation, as reported by the SME Managing Director.

> *"What should be done first of all is sensitization, people need to be sensitized. We believe some of these association as part of their reaching out to micro-mass media they need to bring to the floor issues of sustainable development and then they need to keep talking about that because it's like something that rarely at the back of what people do because we just do the financial side but I think there is need for more sensitization so that as you go on they should properly start embracing these practices which are actually very good because at the end of the day for one to operate for many years you need to ensure that that you are aware of some of these practices otherwise you are here today tomorrow you are not there*" by B18.

Community members were also identified as having a low understanding of sustainability concept and extending the awareness raising activities would assist in changing their attitude, commented a participant from the community

> "*The community doesn't understand about the environment; they are just like SMEs hence also need to be sensitized*" by C34.

In addition, sustainability is in its infancy in Zambia, so the community and SMEs need to be educated on its importance to their livelihood.

ii) **Training and education**

These activities were mentioned by eight and ten interviewees respectively. Training and education were reported as the panacea to the many challenges SMEs face. However, going by the comments from the participants, it's easy to notice that they were confusing training and education. Nevertheless, the SMEs need both. SMEs may have the theory of sustainability, but they need

to develop the skills to practice sustainability rather than just knowing about it. The training will also build their capacity to engage in sustainability practices by equipping the SMEs with skills and technical knowledge to practice sustainability, reported the Managing Director of SME B19.

"I think one of the things is the training. It is really training that is required and I mean training and the education itself. It is one thing to tell people to do this, if they do not understand why they are doing it they will not do it" by B19.

This training on sustainability should begin with the school going children, reported the Managing Director, as quoted below.

"It must start early in our schools that the environment means this to us. This is what it means to our children if we become careless, these are the side effects that will happen to us, we will not be there, but this is what will happen if you don't take care of this if you don't take care of that. So as long as people don't understand why they have to do it, I think that is another big challenge" by B19.

Training would also help SMEs in becoming more financially disciplined, as suggested by the Senior Commercial Buyer-Service[9];

"They need training maybe they don't know how to, and again you have to say what are you doing to build their capacity. But when they see a little bit of money, they know what to do with it" by A3.

iii) **Proactive government**

This activity was mentioned by only seven interviewees (14%).The poor business environment was cited as the major hindrance, which has forced several SMEs to engage in another line of business (something small) to

[9]A Senior Commercial Buyer-Service is a member of procurement team. He is equal to assistant superintendent but responsible for sourcing services.

sustain them when there is totally nothing happening with the main business. To address the poor business environment, the participants suggested the need for an active government that can address the concern of the SMEs. The following three responses quoted below illustrate the participants' views (Mine Supplier Association Secretary General/SME owner, C22; SME Operations Manager, B14; and SME Technical Sales Manager, B20, respectively) on the need for an active government:

"If the government can come on board then things would be better and we can shift away from the mines. The amount of business they are giving to the locals and to that outsiders can't even be equated. The difference is too much" by C22.

"The virus is large. To contain it, it's impossible. If the government doesn't stand up. Everything we do in this country government must be involved" by B14.

"The first thing I would say is that the government needs to look at the mines not as a bank account because what is happening is that the mine has a deficit and they look to increase taxes in the mines and they look to squeeze the mines and the spillover effect is that if they squeeze the mines, the mines squeeze the contractors. The government needs to take a realistic approach and look at mining not in terms of the mines themselves, but in terms of the mining sector and say whatever policy affecting the mines, (also affects) the suppliers and down the chain….I think the key is if the government can stop focusing on making money from the mines, focus on diversifying the economy, let the mines operate like normal businesses and just be a regulator not squeezing the mines too much" by B20.

iv) **Policy/policy guidance**

This point also calls for an active government, and was mentioned by nine interviewees. The role of the government is policy formulation and guidance. As such the government need to state its position on sustainability by coming

up with a sustainability policy and passing a law that could mandate for all companies in the country to engage in sustainability practices, as reported by the Public Relations Officer for trade association, C12 below.

> *"It's basically up to the client to decide so we can't impose cos it's not in the law at the moment. If it were in the law, it would be different cos then we would be able to enforce it cos we have a backing to enforce it. But at the moment it's not legally backed*" by C12.

The participants gave contradictory responses as to whether a policy on sustainability exists or not. The majority of participants reported that no policy exists on sustainability, but the NGO president, C16 contradicted this view, he was of the opinion that a policy or policies exist. However, closer scrutiny of their responses and a few collected documents indicate that policies existed under different names and scattered in the different department. In any which way, the poor business environment is due to lack of policy or policy guidelines. Therefore, the government needs to state its position and direction clearly on the sustainability agenda by formulating a sustainability policy, as confirmed by the SME Director;

> *"Because the direction should come from the government, you see this is the way we want to grow our industry and to grow our companies because sometimes there's ignorance and people if they have no knowledge will not even understand the (stammers) that sustainability, so knowledge is important" by B17.*

In addition, to formulating policies, the government also needs to state its position on the sharing of jobs between indigenous local and foreign SMEs to level the playing field and build the capacity of indigenous local SMEs to engage in sustainability practices, as confirmed by the SME manager in the following quote;

> *"So that's why I was like at the end the government has a role because government, the role which they have to play is policy. If there is policy*

directing, then I think the mines would be compelled but without that, everyone does as they wishes" by B13.

Furthermore, the government must introduce a system of qualifying indigenous local SMEs from foreign local SMEs, as affirmed by the SME Director;

"There should be that kind of qualification when we say it's a local Zambian, it must have indigenous Zambian shareholder or something" by B17.

The SME director also added that the government needs to ensure that the policies formulated are implemented and monitored to ensure compliance by all the players, as reported by the participants:

"So those are the things which should be properly defined and put on paper and government should track that these policies are being implemented" by B17.

v) **Capacity building of regulatory bodies and trade associations**

This activity was mentioned by six interviewees (12%). The regulatory bodies were cited as being weak to monitor the activities of SMEs. Participants from C18 and C14 reported that the institutions have no capacity to go in the field and as such rely on the informants from the community and the company good-will. This means they only react to a situation. These institutions need to be supported with equipment such as vehicles to enable them to monitor the activities of SMEs whose attitude is inclined towards one dimension, economic performance.

The ideal institutions to commerce monitoring the activities of SMEs would be the trade associations, such as NAMSSC, which is a national mother body for all trade associations. However, this is not currently possible since there is no law mandating all SMEs to register with the association. But for this to be a reality, the association needs to start employing full-time staff. Currently,

the association is being run by persons who are also SME owners a situation which is causing a conflict of interest and discouraging other SMEs from registering with the association.

The associations have also been identified as good organizations to organize and provide training to all the SMEs and implement policies. The following quote by the SME Managing Director confirms the above views:

> *"That's one of the areas where the association of the small-scale suppliers I think that's a good unit to start with because then everyone is registered with that unit apart from that just using like I said the mines to check the suppliers" by B19.*

Therefore, the participants suggested that the government supports the association by passing a law that mandates all SMEs to register with the association, as it is with other associations, such as NCC (for firms in construction) and EIZ (for engineering professionals and engineering firms).

vi) **Financial support**

Only eight interviewees reported on this activity. SMEs have been neglected in term of financial support needed to support their growth. It was reported during the interviews that before the financial institutions give loan to SMEs, they demand collateral guarantee. The collateral is the security or guarantee firms offer to creditors to compensate the riskiness of accessing credit or loan from the lenders (Haron et al. 2013). Due to the high-risk rating of most SMEs, the financial institutions usually demand high collateral as a form of the guarantee before giving out loans to the SMEs. Because of their size, SMEs in most cases are unable to meet the required collateral to access the loan they requested, which is usually valued much higher than the loan requested. Such demands are prohibiting to the creditors, especially for the entrepreneurs without fixed assets.

Therefore, the government needs to formulate a policy directing the financial institutions to assist local SMEs access loans by relaxing the collateral requirements or reducing the interest rates to make the loans more affordable for SMEs. The government could also partner with the financial institutions and facilitate an agreement between the focal firms and the financial institutions where a loan is given to SMEs against the order and the focal firm (buyer) channel the payment through the bank that gave the loan. This would enable the bank to recover its money in full and the SME receive the balance, suggested the SME Director.

> *"So government should introduce a bank where they will be sending SMEs to go and borrow without collateral as long as they have to first train that person how to utilize that money in a proper manner" by B21.*

Financial support (targeted loans for SMEs) would also create a level playing field between local and foreign SMEs. Currently, the foreign SMEs are supported by the financial institutions originating from their country, the SME Director added as illustrated below:

> "*They only give their people (nationals). FNB will give money to South African companies both Zambians"* by B21.

It was reported during the interviews, the reason the financial institutions hesitate in lending SMEs money is due to high prevalence of none loan reimbursement. They are known for channelling the loan money to finance other activities, such as purchasing expensive vehicles or finance a holiday. Hence, training discussed above would facilitate in changing their behaviour and use the loan monies as intended, for business purpose.

vii) **Infrastructure development**

Infrastructure development was reported by only two participants. Zambia is classified as a developing country and lacks many basic infrastructures to support sustainability. The lack of infrastructure presents a big challenge for companies and individuals wanting to engage in sustainability practices. For

example, it is difficult to find a dustbin to throw the waste in the cities. One manager had this to say about the lack of dustbins;

"Sometimes I drive from down here to Mazabuka, and I pack everything in my car…., where do I throw it because am driving this vehicle the whole day and I have no provision of where to throw it. There is a lot for the local authority as well as to do to provide designated places where such things can be thrown" by B19.

Therefore, the SMEs need to be assisted with the infrastructure to lessen their cost for implementing sustainability practices, and this responsibility falls on the government. However, the government (in developing countries) alone may not manage, but can partner with the stakeholders like those identified above, to develop the much-needed infrastructure for supporting sustainable practices.

viii) **Reporting mechanisms**

This activity was reported by only five interviewees (10%). It was reported during the interviews that SME owners in their pursuit of maximizing profits, exploit and abuse their workers. They pay them very low wages and threaten them with dismissal if they report to the authority. SME workers need a secure and reliable reporting mechanism that is independent of all quasi-organizations such as NGOs or civil society is needed as confirmed by Source Specialist;

"*The best way is to have reporting mechanism that is independent of all these quasi-organizations e.g. NGOs*" by A2.

ix) **Coordination**

This activity was mentioned by only two interviewees (4%). Regulatory institutions do not exist in isolation, but interacts with other government agencies and departments. For example, ZEMA has the overall mandate of environmental management. However, there are other government departments tasked to manage specific environmental aspects, such as the

Forestry department oversees all the forestry activities, the Mines and Minerals Department oversees the exploration and mining activities, and the Fisheries Department oversee the aqua life and so on. To ensure a smooth, effective and efficient environmental management, ZEMA must coordinate its work with all these departments. The Principal Inspector (C18) confirmed in the following quote:

> *"In fact, last time we had an operation that for the smooth operation, we had entered into an MOU were certain inspections, we do them together or certain review of documents we invite them and we sit together we review their professional input as mining experts and then we put our input as environmental regulators. Right now, the memorandum is over but we still operate, where the aspect has some element of mining, we send them the document so that they make a comment and review. In fact, we do the same for all other authorizing agencies. If somebody wants to put up a structure for instance in Ndola there is no way we can do an approval without the local authority. They should help make an input so that once a decision is made or if there are issues that are raised but those things we don't make a mistake" by C18.*

The following table (Table 5.5) provides a summary of the sustainability barriers and associated mechanisms for addressing them.

Table 5.5: The barriers and the corresponding mechanism to overcome them

Barriers	**Mechanism for Addressing the Barriers**
Lack of awareness	Awareness raising; training & education
Lack of knowledge	Training and Education; coordination & awareness-raising
Lack of understanding of sustainability concept	
Lack of implementation of sustainability policies	Training, Capacity building of regulatory bodies and trade association; reporting mechanism; coordination
Attitude towards sustainability	Training; awareness raising
Cost	Infrastructure development; financial support; training; policy/policy guidance
Capacity	Infrastructure development; capacity building of regulatory bodies and trade association; policy/policy guidance
Lack of infrastructure for sustainability	Policy/policy guidance; Infrastructure development
Lack of support	Policy/policy guidance
Poor business environment	Proactive government; coordination
Late payment and small profit margins	Proactive government; policy/policy guidance; trade association
Access to finance	Financial support, policy/policy guidance; training and education
Political interference	Policy/policy guidance, training and education; reporting mechanism
Duplication in the provision of law	Policy/policy guidance, training and education

5.3 Summary

This chapter has presented the findings of the research from the interviews with SME owner/managers and the stakeholders by addressing the sub-research questions. The chapter began by analysing the interpretation of the sustainability concept by the stakeholders. This was to demonstrate how the understanding of the sustainability concept influences its adoption and practice. The findings were that most SME owner/managers understand the sustainability concept from a business decision-making perspective.

This was followed by the analysis of the current sustainability practices by the SMEs. The findings revealed that SMEs partially engage in sustainability practices since their prime interest is to seek profit. Their motive to engage in

sustainability practices is mostly externally driven, which is to comply with customer requirements. The analysis also revealed that sustainability practices are concentrated within the mining premises.

The chapter then presented the stakeholders and their roles in the mining SC. Several stakeholders were identified and their roles or mandates are that of monitoring SMEs activities and supporting them through capacity building. The stakeholders extend sustainability using a variety of strategies.

The analysis of SME suppliers then followed. The analysis revealed that SMEs are of two kinds, 1) those that register their business called formal SMEs and 2) those that do not register their business called informal SMEs. The findings also revealed that in order for the SMEs to be suppliers of goods or services to the mining firms, they must first be registered with the respective mining firms before they can be invited to submit bids for jobs floated. Once the SME is awarded job, it must adhere to the mining firms' demand/requirements. Those SMEs that fail to comply are penalized.

The chapter concludes by reviewing the SME barriers to practicing sustainability, and the mechanisms for overcoming these barriers. Many of the barriers identified can be overcome by educating the SME owner/managers and the community about the importance of sustainability, training the SMEs to build their capacity, and supporting them financially. The major barriers SMEs face is poor business environment, which requires government involvement to resolve. Finally, the interviews revealed that most SMEs that engage in sustainability practices do so mainly due to the end-user requirement.

The next chapter will discuss the results based on the research sub-research questions to understand their implications and answer the research objective.

6.0 DISCUSSIONS OF THE FINDINGS

6.1 Introduction

This chapter aims to discuss the research findings presented in Chapter Five. All of the discussions will address the two primary research questions which aim to fill the gaps in knowledge as presented in Chapter One.

This chapter will critically review research findings in the light of previous literature reviewed in Chapter 3. However, before proceeding with the analysis, it is important to revisit the research aim, research objective and research questions. The research aims **to provide decision makers (policymakers and senior managers of focal firms) with better decision-making support tools.** The research objective is to develop a **detailed stakeholder framework that helps to analyse and better understand the SME environment with regard to sustainability practices in the mining industry in Zambia.** The research objective will be addressed by answering the two primary research questions:

(1) Do SME suppliers in the mining supply chain engage in sustainability practices?
(2) How are SMEs influenced by stakeholders when adopting sustainability practices in the mining supply chain?

However, in order to comprehensively answer these primary research questions and address the research objective, the primary research questions were further sub-divided into sub-research questions as follows;

RQ1) What are the current sustainability practices among the SME suppliers in Zambia?
RQ2) Who are the stakeholders and what do they expect from SMEs suppliers in the mining SC?
RQ3) How do SME suppliers transfer sustainability requirements imposed by their stakeholders to their suppliers?
RQ4) How do stakeholders engage SME suppliers in sustainability initiatives?

RQ5) What barriers do SME suppliers face when adopting sustainability practices?

RQ6) What are the mechanisms for overcoming the barriers SME suppliers face in implementing sustainability practices?

RQ7) How can SME suppliers be motivated to practice sustainable development?

The previous chapter, Chapter Five, presented the findings from this study. This chapter will focus on the significant findings that will facilitate in addressing the sub-research questions, which ultimately lead to the delivery of the research objective and operationalization of the research framework, presented in Figure 3.7, page 116. The way in which the research findings compare and contrast with the existing literature will be examined. Therefore, the sequence of discussion will be based on Figure 5.1, page 158, focussing on the key themes. Finally, the chapter will discuss the implications of the findings to other developing countries context.

6.2. Interpretation of the Sustainability Concept

It is important first to know and understand the meaning of the sustainability concept to the SME owner/managers in the mining SC in Zambia. The collation of these views is critical to the operationalization of sustainability in this SC.

The findings demonstrate that the views of SME owner/managers concerning the sustainability concept were diverse but were clearly aligned with the three dimensions of sustainability (economic, social and environmental). According to one group of SME owner/managers, their take on this term resonated with that of the Brundtland Commission: “development that meets the needs of the present without compromising the ability of future generations to meet their needs” (Brundtland 1987: 43). Whilst the other group of SME owner/managers perceived the term to hold a more economic focus, underpinning business sustainability or business viability/survival. Therefore, the interpretation based on the findings demonstrated a clear connection to sustainability, but the majority of responses weighted more in favour of the business viability.

The latter group's interpretation of sustainability as business viability and survival supports Eijdenberg and Masurel (2013), who argued that people in developing countries are driven to start business ventures for economic reasons due to poverty and lack of choice in work. The results also support the findings by de Kok et al. (2013); La Hovary (2013), that lack of employment and high poverty levels in Zambia has forced many individuals to start new businesses (be entrepreneurs). The unemployment rate has been exacerbated by the new owners of the mines that have focussed their operations on the core business of mining, subcontracting the non-core activities and retrenched many workers after privatization, as discussed in Chapter 2. Having worked in the mining industry for many years and now out of work and no one to employ them, the majority of these ex-miners started businesses as suppliers to the mining companies. Hence, Zambian SME owner/managers' motivation to start business ventures is to put food on the table for their families as they struggle for survival. *Thus, the findings contrast with their counterparts in developed countries whose motivation is driven by the challenge, inheritance, and independence* (de Kok et al. 2013).

6.3. Current Sustainability Practices

The results demonstrate that the SME owner/managers' interpretation and motivation to engage in business strongly influences the operationalization of sustainability concept. Thus, the findings support Association of Chartered Certified Accountants (2012), that SMEs are both owned and managed by the same individual, who have freedom and power to implement sustainability practices or to ignore them as they are not answerable to shareholders and/or board. Jenkins (2004a) further contended that their personal motivations for taking socially responsible initiatives are more important. As such, it is may be relatively easy to convince the SMEs to engage in sustainability practices since they are the final decision maker. At the same time, it may be difficult to convince them to engage in sustainability practices if they see no benefit in doing so. The current sustainable practices of SMEs in Zambia are shown in Table 6.1, as per findings.

Table 6.1: The sustainability practices of SMEs

Economical dimension	Social dimension	Environmental dimension
• Buying from accredited companies • Hiring/sub-contracting • Resale scrap • Use of refill drums than containers • Installing pumps • Long term contracts • Using a min-bus vehicle • Minimize on printing • Local recruitment	• Community support • Donate to charity & orphanages • Health schemes • Employee incentives • Reasonable staff remuneration • Training & development • Local recruitment • Industrial attachment to students • Local purchases • Shorter working week • Sponsor sports activities • Sponsor students	• Environmental management (onsite landfill, reporting procedures, waste disposal) • Environmental policy • Health, safety & environmental policy • Investing in product knowledge • Solid waste management • Tree planting • Recycling • Refill drums • Installing pumps • Minimize on printing

Source: Author's own

The results, therefore, show that SMEs in Zambian do practice in a sustainable manner. *However, they only engage in sustainability when working within the mining premises and under close watch by the focal firms*. As such, their engagement in sustainability may be viewed as a means to an end; they want to secure their continued access to resources (business contract) as suppliers to the mining firms in the SC and know that failure to comply with large mining organizations' sustainability requirements would result in a loss of business. Consequently, outside the mining areas, where stakeholders seldom monitor them and working with customers that do not prioritize sustainability practices, the findings revealed that SMEs revert to their initial motive for starting a business by concentrating on maximizing profits. This is because most SME owner/managers consider their actions to have minimal impact on the environment (Petrini et al. 2018). Furthermore, the largest customer of SMEs outside the mining SC is the government. Therefore, SMEs not engaging in sustainable practices outside the mining areas is an indicative of lack of government support as argued by (Wilson et al. 2012; Petrini et al. 2018).

In this respect, the results suggest that the behaviour of SME owner/managers to sustainability could be considered to have what is akin to a dual personality, which is defined as “a dissociative disorder characterised by the existence of two or more distinct personal identities within a single individual, with each identity being dominant at a particular time” (American Psychiatric Association Committee on Nomeclature and Statistics 1980). Dual personality in that their behaviour and response flexes depend on whom they are engaging with. Although it is expensive to be sustainable, they have to practice it in order to get business (more money) from the mining firms and failure to do so could result in a loss of business. Therefore, when trading with the mining firms, they adopt a very formal persona, underpinned by the governance of rule and command, have money and the nature of the working relationship is that they behave in a sustainable manner. Consequently, the stakeholder pressure (customers) has the most considerable influence on sustainability practices by SMEs. This is the case with firms trading on the left of Figure 6.1 that have recognised the benefits of engaging in sustainability, particularly with access to a business they would not otherwise have had the opportunity to supply to the mining firms.

On the other hand, if customers do not prioritise sustainability practices, there is little-perceived value in differentiating on sustainability performance (Revell and Blackburn 2007). This is the case with firms trading on the right side of Figure 6.1. Although capable of engaging in sustainability practices, the absence of customer pressure meant that not participating in sustainable practices posed no immediate business risk, and so firms focussed their resources on maximising their return on investment. Consequently, when trading with non-mining firms, SMEs adopt a more relaxed to informal persona, governed by less to no rules and command, and have less money. As such, SMEs prioritise to keeping their business afloat and generating sufficient business and disengage in sustainability practices. Therefore, dual personality depends on whom they are trading with, which is summarised in Figure 6.1.

Figure 6.1 is a revised version of Figure 2.9, page 41, which was developed conceptually based on the literature and theories. Having gained additional

insights into the area after conducting field work, Figure 2.9 was revised to the current version, Figure 6.1.

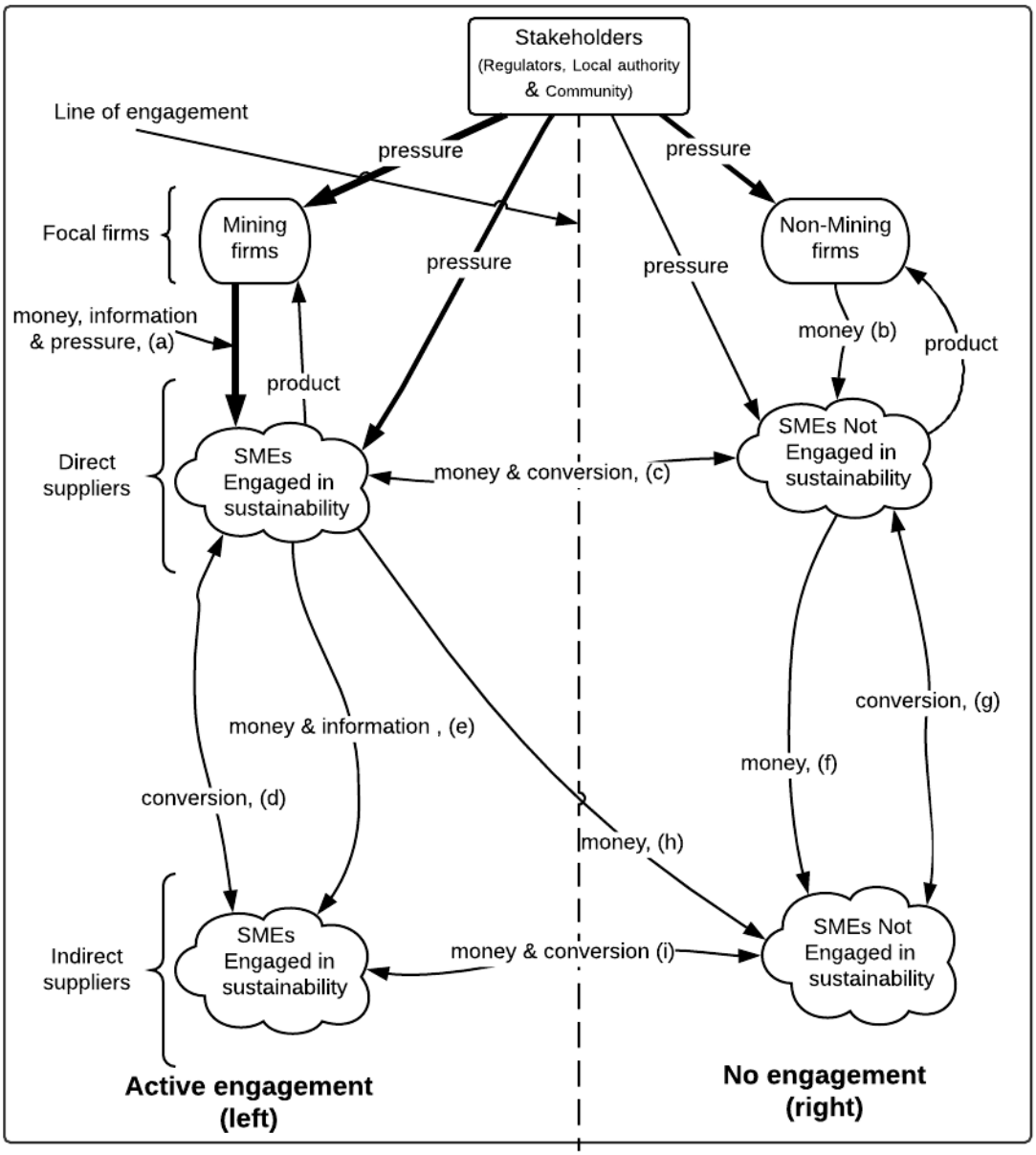


Figure 6.1: The engagement profile of SME suppliers in a mining SC.

Source: Author's own

The key variables in Figure 6.1 are pressure, money, information and conversion, which mean different thing to the firms on either side of the figure. On the left side, the pressure is most significant; and there is exchange of (more) money and trade information, while on the right side the pressure is less and there is only the exchange of (less) money. Subsequently, the firms on the left side actively

engage in sustainable practices, whereas the firms on the right side do not engage in sustainable practices.

The pressure is high on the mining firms to behave in a sustainable manner than on non-mining firms as shown by the thickness of the pressure arrow. The mining firms then exert the same pressure on the direct SME suppliers. Consequently, there is a downward flow of (more) money and information[10] from mining firms to direct SME suppliers engaged in sustainable practices **(a)**, which is then passed onto the indirect SMEs suppliers engaged in sustainable practices **(e).** The upward flow is a product (inputs) purchased by the focal firms. However, if the pressure from mining firms, regulators, local authority and local community is weak, the direct SME suppliers may opt to abandon purchasing expensive supplies from engaged indirect SME suppliers and purchase cheap supplies from indirect SME suppliers not engaged in sustainability practices **(h).**

However, when the same direct SME suppliers work with non-mining firms, there is a conversion in their behaviour as they adopt a more relaxed to the informal persona **(c),** i.e. they abandon sustainability practices. Consequently, there is only a downward flow of (less) money from non-mining firms to direct SME suppliers not engaged in sustainable practices **(b).** Equally, there is just a cash transaction between direct SME suppliers and indirect SME suppliers **(f).**

Depending on the support and business environment, the informal SME suppliers (indirect SMEs) can convert to formal by formalizing their businesses or remain in their informal status. When a conducive business environment adequately supports the SME sector, informal SMEs (indirect suppliers) formalize their business and work directly with focal firms. Otherwise, amidst poor business environment and lack of support, they engage in unfair business practices **(d & g)** and work indirectly with focal firms. Informal SMEs think that by avoiding paying taxes, they can generate more revenue than formal SMEs.

[10] Information includes the product specification, policy guidelines, certifications and quality standards.

6.4. SMEs Stakeholders in the Mining Supply Chain

This section will discuss the SMEs stakeholders and their respective roles in the SC. Based on the findings, the following are the SMEs' key stakeholders; *government, regulators (Mines and Safety Department and ZEMA), focal firms, employees, local authority, ZDA, financial institutions, local community, NGOs, suppliers and trade associations.* These findings support previous findings as shown in Figure 2.10, page 43. The stakeholders can be categorized as primary and secondary stakeholders. The primary stakeholders are suppliers, employees and focal firms. Based on the respondents, they are primary stakeholders because they are directly affected by the actions of the SMEs and at the same time can affect their performance, thus supporting findings by (Clarkson 1995). The secondary stakeholders include the government, local community, NGOs, local authority, financial institutions, ZDA, regulators and trade associations. According to the findings, these stakeholders directly engage the SMEs but are not directly affected by their actions. The stakeholders are shown in Figure 6.2.

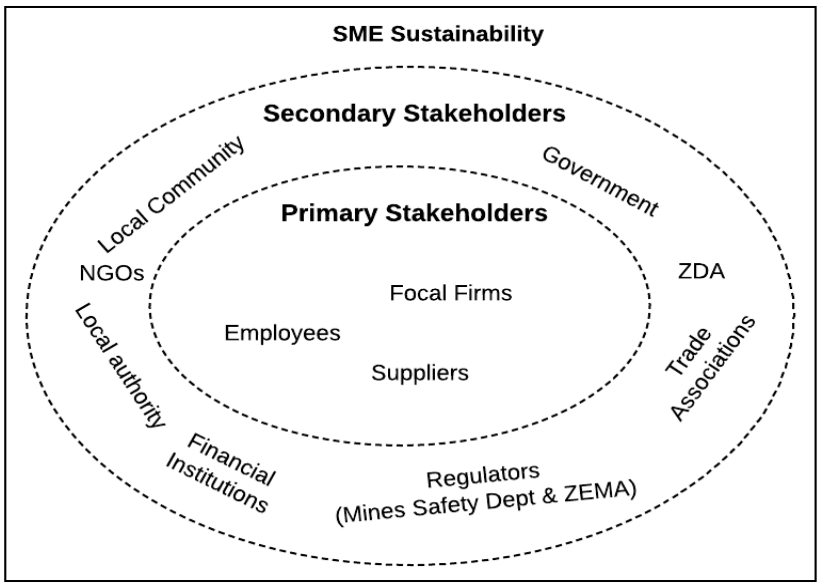


Figure 6.2: Types of SMEs stakeholders

Source: Author's own

Government: In this study, the government was singled out as the most important stakeholder by 90% of the participants as far as business sustainability or viability is concerned. This classification of the government fits with the interpretation of the sustainability concept by the majority of participants.

Consequently, its role is to ensure SME growth. The government can change the legal and regulatory context within which the SMEs operate. According to Verbeke and Tung (2013), the role of government is to co-create a society that will improve its citizens' wellbeing and to lay the foundations (inter alia through laws and the enforcement thereof) of a fair marketplace for businesses to compete and prosper. For example, government officials can strengthen or weaken a firm's legitimacy through the creation or interpretation of laws and regulations (Newth 2016). The importance of the government is reflected by the amount allocated to support SME growth in the 2018 budget of K1.8 billion (£153, 191, 489.40) (Times of Zambia Newspaper, 11 October 2017).

Focal firms: According to the findings, focal firms are the major customers, they are large and powerful. Whereas the participants considered the government as the key stakeholder with regard to firm growth, the focal firms were considered the most significant stakeholders with regard to sustainability uptake in the mining SC. According to Upstill-Goddard et al. (2016), focal firms use their power to dictate environmental and social criteria to their SME suppliers. The focal firms in partnership with local authority and regulators promote sustainability practices within the mining areas. Consequently, the focal firms are responsible for the selection of SC members and for extending sustainable practices to all members of the SC, as shown in Figure 6.3. Therefore, the findings support Wilhelm et al. (2016a), *who theorized that stakeholders might hold focal firms responsible for non-sustainable SC activities, as such, have to expand their sustainability strategies to the SC level*. The findings also support (Grimm et al. 2014), who argued that to ensure compliance with sustainability standards, firms are gradually appreciating the importance of their SC as evidenced by their reliance on direct suppliers and sub-suppliers' sustainability practices.

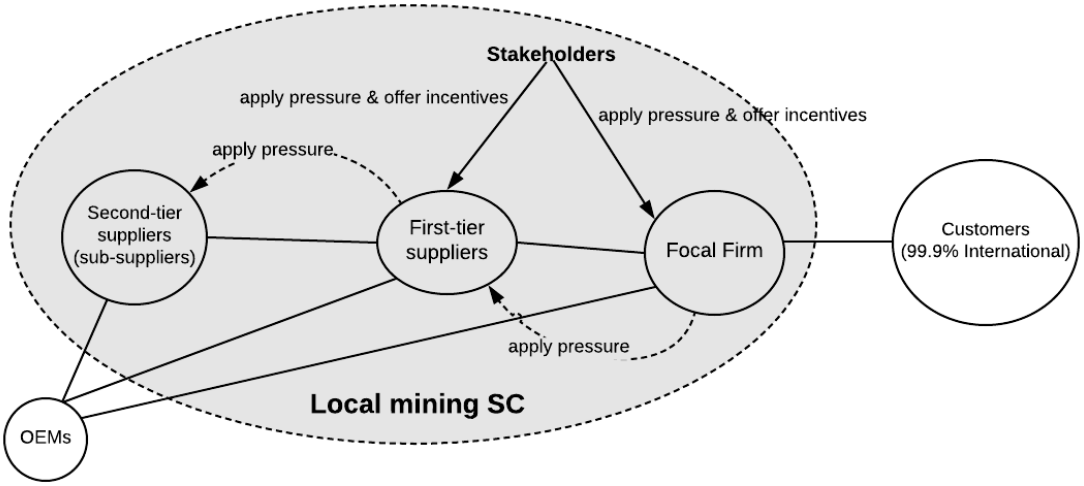


Figure 6.3: Structure of a local mining supply chain

Source: Author's own

According to Figure 6.3, the local mining SC, comprise of the focal firm and first and second tier suppliers. The figure also shows that the sustainable behaviour of second-tier suppliers is influenced by the first-tier suppliers, whose suitable behaviour is influenced by the focal firms and stakeholders such as the regulators, the local community and the local authority. The regulators, the local authority and the local community also closely monitored and controlled focal firms to ensure that their processes are sustainable. That is, the focal firms transfer the pressure exerted on them to the first-tier suppliers, who in turn are expected to transfer it to their suppliers. In so doing, they extend sustainability practices to the SC members (SME suppliers) to make the entire SC sustainable. Furthermore, the figure demonstrates that although the SMEs play a vital role in the SC, the focal firms do not entirely rely on the suppliers. If they are not satisfied with the performance of the suppliers, they can replace them with another or directly purchase the inputs from OEMs.

In extending sustainability practices to the suppliers, the results show that the focal firms use product specification, certificates, policy guidelines, checklist and induction, to provide evidence of the actions undertaken by the SMEs to improve their environmental performance (Jenkins 2004b). These mechanisms employed are the most suitable given the contextualization of the SME industry, in which

the SMEs are essentially the suppliers of goods and do not manufacture them. In addition, these mechanisms ensure that focal firms keep their expenditure on suppliers to the minimum, to produce for a profit by focussing on the core (Fraser and Lungu 2007).

Regulators (ZEMA, Mine Safety Department and Local Authorities): According to the results, the role of the regulators is to control and monitor the activities of the firms. Mine Safety Department is responsible for monitoring the activities of mining firms while ZEMA and Local Authorities monitor the activities of both large and small (mining and non-mining) firms countrywide. The local authority also supports the firms by providing support infrastructure (waste bins) and in raising awareness on the importance of sustainability to local businesses and the community members. The firm that has been successfully assessed is issued with a renewable certificate for a period of one to three years depending on its kind of business.

However, results also showed that the regulators have challenge monitoring SMEs spread over a large geographical area due to resource and capacity constraints. They only monitor closely those firms located and/or operating within the premises of the mining firms. The firms operating outside the mining premises are only successfully inspected at the start of operation and at the time of renewal of the licence. In between the renewal periods, the regulators rely on the firms to faithfully and regularly provide them samples for analysis if what they discharge to the environment is within permitted levels and the local community to report the non-compliance companies. Sadly, according to the findings, the local community does not really understand the sustainability concept and is equally a culprit in polluting the environment. Consequently, it is not known with certainty whether these SMEs engage in sustainability practices when operating outside the mining premises.

Employees: in this study, the participants did not consider the employees as significant stakeholders with regard to sustainability. This is because they are given least attention, as submitted by Huse and Rindova (2001). Due to the high unemployment rate, employees fear loss of employment (Yang and Rivers 2009),

and often pursue jobs at the cost of the natural environment as reported by Sharma and Henriques (2005). Consequently, employers regard employees expendable, thereby exploit and mistreat employees, paying them any amount of wages, however insufficient it may be. The unhappy employees are threatened with dismissal and easily replaceable by desperate waiting persons and are unlikely to take action. In addition, there is no an independent reporting mechanism for the employees to air their views without being identified.

Nonetheless, employees in this study play an important role in the sustainability agenda. In performing their duties, they play an important role in the continuity and successful implementation of sustainability practices. For example, González-Benito and González-Benito (2006) argued that employees are the most important in affecting the implementation of environmental practices by a firm. According to Evans and Sawyer (2010); Schlierer et al. (2012), SME owner/managers identify employees among the stakeholders, and they can be a force for environmental change (Anderson and Bateman 2000).

Trade Associations (TAs): According to the findings, TAs are basically member associations and professional associations; as such their influence is exerted on their members. Their interest is in finding a solution for members to problems related to business environment and trade through the existing framework. They do this by continuously communicating with the government in policy formulation to avoid heavy-handed legislation that may not always be very effective. Therefore, they support members in business development, policy awareness, training, advocacy and capacity building, as guided by the laws of the country. According to Hoque et al. (2016), TAs not only creates awareness among their members, but they also organize them to implement the existing laws. Therefore, in the absence of the law (on sustainability practices) as is the case in Zambia, trade associations indirectly influence members to practice sustainable practices by educating members on its importance.

Therefore, with regard to sustainability, TAs could play a vital role due to their close connection to SMEs and government. In the presence of law on

sustainability (mandating all firms to engage in sustainability practices), and for the government wishing to promote sustainable practices may regard TAs as a suited partner to achieve it. Based on the results, TAs are willing to enforce sustainable practices among their members but needs a law to protect them. Therefore, in the presence of the law TAs can directly influence firms to engage in sustainability practices.

However, TAs depends on members' subscription for survival and are often motivated by the need to attract new members, but many SMEs have challenge joining due to the high member subscription fees. Therefore, to reach many SMEs, there is a need to explore ways for TAs to find value in assisting SMEs outside of their membership, such as informal SMEs. For example, introducing a minimal fee or waving it for SMEs that are under one year in operation. Therefore, there is potential for a much more significant impact.

NGOs: In this study, NGOs have a similar role as the TA. The difference is the source of funding. NGOs are funded by international donors and sometimes the government. As such, they do not depend on member contribution/subscription. The membership is based on locality and/or type of business.

According to the findings, NGOs' role is to promote trade for their members, influencing policy decisions, training, awareness-raising and fostering the relationship between government, business and society. The group also lobbies, and provide advocacy to create a more enabling business environment for members. They actively participate in the environmental assessment hearing to influence government agencies such as ZEMA to deny firms, environmental licenses or their renewal (Sharma and Henriques 2005). NGOs also interact with government agencies and corporations regarding environmental concerns (Hoque et al. 2016). According to Clarke and Fuller (2010), NGOs have an important role of a stakeholder or even potentially of a partner, in SMEs' efforts to be more socially and environmentally responsible.

Local community: In this study, the role of the local community is to monitor the activities of the SME suppliers and reports those that they find in breach of laws.

According to Brummette and Zoch (2015), the local communities view that firms are ill-intentioned and too narrowly focused on profits. Davis and McGregor (2000) argued that the local community plays an important role in awareness-raising concerning the activities of the firms, which includes sustainability practices.

Zambia Development Agency (ZDA): According to the findings ZDA is the mother body for the whole industry. Its role is to foster economic growth and development of the capacity of the firms so that they are competitive.

Financial institutions: Based on the results, the role of financial institutions is providing financial support to the SMEs in the form of a loan. They assist firms in building their financial capacity to improve the business's viability (economic performance). According to Lewis and Cassells (2010), practising sustainability is costly; the financial support from the financial institutions augment the SMEs' ability to adopt sustainability practices using the revenue generated from their business activities.

From these discussions, the role of stakeholders in the SC, hence, to the SME suppliers can be classified into two; controlling and monitoring, and supporting as shown the Figure 6.4 and Table 6.2 below.

Figure 6.4 shows that stakeholders with controlling and monitoring roles directly influence the SMEs to engage in sustainability, whereas the stakeholders with supporting roles indirectly influence the SMEs to engage in sustainability by first developing their capacity for overall business operations which include sustainability. It is indirect in the sense that the overall aim is capacity building to impart the SMEs with skills for improving business viability. As such, the firm can use the acquired skills in the sustainability practices. The specific support of each stakeholder is given in Table 6.2.

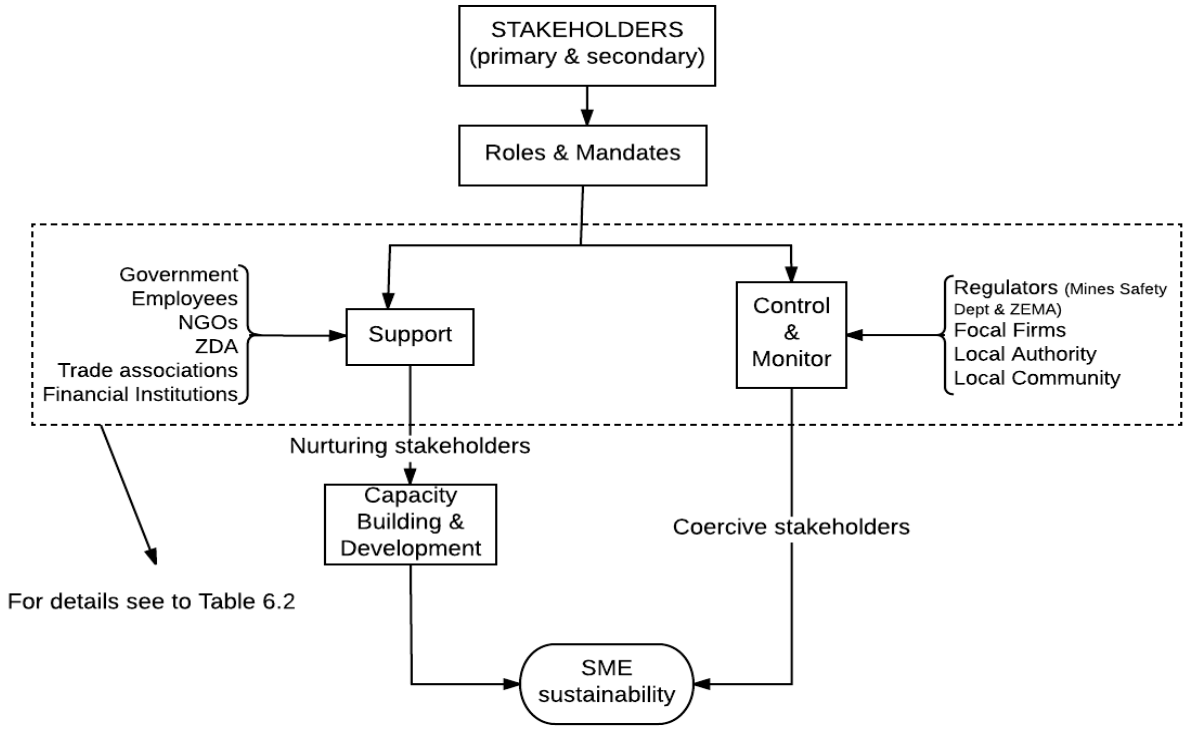


Figure 6.4: The outcome of stakeholder roles and mandates

Source: Author's own

Table 6.2: The stakeholders and their roles and mandates

Roles	**Stakeholder**	**Support offered**
Control and Monitor	ZEMA	Control, monitor, regulate
	Mine Safety Dept.	
	Local authority	Regulate, control, monitor, promote sustainability, provide services
	Focal Firms	Monitoring, control and promoting sustainability
	Local community	Monitoring and whistle-blower
Support	Government	Formulation and interpretation of law and regulations
	Financial Institutions	Financial support
	Employees	Facilitate implementation of sustainability
	NGOs	Promote business, protect, raise awareness, training, lobbying, advocacy
	ZDA	Training and business linkage
	Trade Association	Promote, business development services, mentoring, training,

Source: Author's own

6.5 Sustainability Transfer Strategies

The majority of SME suppliers in Zambia are in the business of procurement and supply. As such, the reported mechanisms for extending sustainability practices include *product specifications, certificates, policy guidelines, checklist and induction*. Gimenez and Tachizawa (2012) referred to such mechanisms as a hands-off approach. These practices provide the focal firms with the assurance and evidence that SME suppliers are in compliant with sustainability standards (Hamann et al. 2015). The sustainability requirements are transferred from focal firms to first-tier suppliers by the focal firms and from the first-tier suppliers to the second-tier suppliers by the first-tier suppliers as shown in Figure 6.3, page 233. Consequently, the transfer strategies can be assumed as direct and indirect strategies respectively. However, induction only applies to first-tier suppliers.

6.6 SME Suppliers

According to the findings, there are two types of SMEs in Zambia, formal and informal SMEs. Both of these engage in sustainability practices for different reasons and in different ways.

6.6.1 Formal SMEs

The formal SMEs make the least number of SMEs in Zambia. According to the findings, the formal SMEs engage in all the sustainability practices as presented in Table 6.1, page 227. However, the rationale for engaging in sustainability practices is largely about meeting customer demand emanating from the focal firms and pressure from external stakeholders. In doing so it enables them to continue participating in the mining SC, which translates to more orders, more revenue and even price premiums, as demonstrated in Figure 6.1, page 229.

Findings also showed that formal SMEs' interest is in maximising their revenue by reducing costs. Therefore, in the absence of customer demands for sustainable products and absence of or weak monitoring from regulatory authorities, they will abandon engaging in sustainability practices, as indicated on the right-side of Figure 6.1, page 229. As discussed above in Section 6.3, page 228, it is this group of SMEs that exhibit a dual personality. They have recognised

the benefits of engaging in sustainability, especially the additional access to more business (left side of Figure 6.1), which they would not otherwise have. At the same time, when trading with customers not engaged in sustainability or demanding sustainable products, they disengage in sustainability practices (because there is no expectations for them to do so).

6.6.2 Informal SMEs

According to the findings, informal SMEs are the majority of SMEs in Zambia, who have been forced to becoming entrepreneurs due to lack of employment opportunities. Therefore, they are more concerned about survival. They engage in those sustainability practices that directly impact their revenue either by increasing revenue or reducing cost. They engage in the following sustainability practices;

- Buying from accredited companies.
- Local recruitments (but do not have permanent workers).
- Health scheme (they have no allocated budget for this but assist employees to pay medical bills on a case by case needs basis).
- Community support (e.g. providing transport to the sick and bereaved community members).
- Employee incentives (e.g. providing transport, lunch and salary advances).

It was also reported that informal SMEs do not direct trade with the mining firms because of their informal status. The law requires the mining firms to trade with only formal businesses. However, findings showed that the informal SMEs actively participant in the mining SC by trading with formal SMEs. They are hired or subcontracted or provide financial support. In other words, formal SMEs lacking capital work with informal counterparts upon winning a tender from the mining firms.

Additionally, findings revealed that the government of Zambia have mandated the mining firms to give business to SMEs to alleviate poverty and for revenue

creation (Sodhi and Tang 2014). They also want informal SMEs to formalize their businesses and start paying taxes. Engaging the SMEs in the mining SC also helps the mining firms overcome the high cost of supplying and distributing the inputs and final goods (Sodhi and Tang 2014). Consequently, the study findings support previous research which stipulates that majority of SMEs in developing countries are informal (Page and Söderbom 2015). These have been pushed to start new businesses due to lack of employment (La Hovary 2013), and they significantly contribute to economic development through job creation, income distribution and poverty alleviation.

The study findings also revealed that informal SMEs aspire to formally register their businesses but face challenges resulting mainly from the poor business environment and the costly lengthy business registration process in Zambia. These entrepreneurs lack capital and have challenges obtaining start-up capital from financial institutions that perceive them to lack financial discipline. As such, they believe that registering a business would expose them and attract attention of the revenue authorities. Therefore, given their lack of capital and capacity to meet large orders, these firms consider being informal and trading on a small scale as the best sustainable option.

In order to register a business in Zambia, companies have to register with the following authorities to obtain necessary documentation/permissions;

- PACRA for certificate of incorporation and the certificate of share capital
- NAPSA for social security purpose
- ZRA for corporate tax and value added tax
- Local authority for trading permit, and
- Worker's compensation fund

The registration with the above authorities is not the end but a minimum requirement. Depending on the nature of the business more documentation may be needed. Furthermore, all documents/certifications should be renewed annually except for ZRA where payment has to be made monthly. Therefore, within a poor business environment, the informal SME entrepreneurs view registration of their business a costly endeavour. As well as this they are doubly

disadvantaged as they do not have information on the benefits of registering a business (such as access to a wide market) and subsequently think that remaining out of the primary circuits of market exchange and state protective systems, will allow them to avoid paying taxes. This in turn will generate more revenue than their counterparts in the formal businesses (Azmat and Samaratunge 2009; La Hovary 2013).

6.7 Drivers

Chapter Three, Section 3.6.2, page 75 of this thesis presented the extant literature relating to the factors that motivate SME owner/managers to engage in sustainable practices. Having examined this concept with participants, a number of drivers, internally and externally driven were identified and are discussed in this section. The internal drivers can be summarised as *company policy and employees*, whilst the external drivers are *customers, regulators, competition, incentives and recognition*.

6.7.1 Internal drivers

The internal drivers are discussed below.

Company policy: Although only one participant reported this, the general consensus is that all firms participating in the mining SC have a company policy. However, it was not a driver for engaging in sustainability practices, but is one of the criteria required for registration with the mining firm for the SMEs as suppliers. The mining firms demand that their suppliers abide by the stringent standards as demanded by the stakeholders that closely monitor the industry to ensure that its negative impact is minimized and mitigated in accordance with the environmental and mining laws. Subsequently, the mining firms strictly monitor the activities of suppliers to ensure that all the inputs into the mining and processing of minerals comply with health, safety and environmental regulations. The SME suppliers that do not have health, safety, and environmental policy (sustainability policy) are provided by the focal firms. In fact, it does not matter whether the supplier has a policy or not; the focal firms insist on following their safety and environmental

guidelines. Therefore, for the SMEs trading with the mining firms, the company policy plays an insignificant role in their engagement with sustainability practices.

However, going forward, company policy may play an important role since the government plans to ensure that all firms to engage in sustainability practices, and not only those operating in the mining premises so that they contribute towards attainment of millennium development goal number seven (7) (environmental sustainability). According to Epstein and Buhovac (2010), one of the key ingredients to make overcoming sustainability implementation is to have sustainability practices. Hoffman (2010) argues the top management team sets the policy and its support is critical to the sustainability initiative. Therefore, having a company policy on sustainability is a starting point for a firm planning to implement it.

Employees: Although no participant reported on the employees as drivers of sustainability, employee commitment has been identified as a driver for implementing sustainability practices (Aghelie 2017). However, as earlier discussed, the employees' motivation is to work and secure their jobs, but in doing so they are actively involved in the implementation of sustainability practices, as such; they play an important role in driving the sustainability concept.

Therefore, the results demonstrate the SMEs are not driven by the internal factors to engage in sustainability practices, thus contradicting previous studies by Baden et al. (2009); Meqdadi et al. (2012), who argued that the primary driver for SMEs' engagement in sustainability activities is internal drivers based on moral and ethical values.

6.7.2 External drivers

The external drivers of sustainability are discussed below.

Customers (focal firms): As discussed above, focal firms are the primary customers; they are large and powerful and control the mining SC. Furthermore,

SME suppliers heavily depend on them for business. Hence, this concurs with earlier studies that pressure exerted within the SC come from large customers (focal firms), because they are more compelled to adopt sustainability practices than SMEs due to the fact that they are more influential with better organizational management and good financial stability (Ghazilla et al. 2015), and that stakeholders identify focal firms as the responsible party for non-compliant SC products (Dou et al. 2018).

Regulators (ZEMA and Mine Safety Dept.): Based on the results, regulatory pressure is from chief regulatory bodies/agency; ZEMA and Mine Safety Department. ZEMA and Mine Safety department control and monitor activities of the firms so that they comply with the environmental management. However, their control and monitoring only affect the firms operating within the mining premises due to capacity constraint. Although the findings concur with Ghazilla et al. (2015), regarding regulatory pressure as drivers for sustainability in SMEs, however, the fact that SMEs only engage in sustainable practices within mining areas it supports Laari et al. (2017), who theorized that many of the sustainability initiatives seen in SMEs are only to meet the minimum requirements for environmental legislation.

Competition: According to Aghelie (2017), the need to secure a stable and long-term growth, business performance and innovation opportunities may motivate the SMEs to adopt sustainability initiatives. However, based on the findings, Zambian SMEs focus on financial performance or positive business attributes in the market. As such, they constantly scan the market and imitate the strategies of firms having positive business attributes, i.e. firms with positive economic performance, as illustrated by one SME owner below;

> *"It can be depending on other firms. We are in a competitive environment so if you find a friend who is doing [the]same business does something that people find appealing you are also inevitably pushed to do something similar" by C22*

Therefore, although competitiveness may be used as a driver for sustainability, as suggested by Kamolkittiwong (2015); (Aghelie 2017), in this study, it does not fit as a driver for sustainability but fits more closely with the concept of sustainability as it was interpreted, which is more business viability. Competitiveness is a motivation for economic survival, which to the SME owner/managers sustainability is keeping the business alive and less green.

Recognition: Although it was not noticed by the participants as a source of recognition currently for SMEs, there is something currently used for the large firms. This could be extrapolated to the SMEs. For instance, each year, during the Zambia international trade fair, a company that scored the highest in environmental management is presented with a trophy. Consequently, participants proposed that it is a factor that may motivate SMEs to consider engaging sustainability if extended to them.

Incentives: According to Moorthy et al. (2012), this exists as a driver for sustainability but it's not currently used as a driver by the SME suppliers in Zambia. However, it was recommended by the participants. Given the fact that sustainability amongst SMEs in Zambia is largely about keeping the business alive, providing them with incentives (such as tax relief or environmental taxes to encourage SMEs operate in a more environmentally friendly way) for engaging in sustainability would motivate the SMEs to engage in sustainability practices outside the mining premises and where there is no close monitoring.

In conclusion, a small list of sustainability drivers was identified. The reasons for such a small number of drivers could be the context of Zambia as a developing country but this was not confirmed in this study. However, evidence point to the motivation for starting a business by the SME owner/managers, which is about economic survival and the interpretation of sustainability concept, maybe the contributing reasons for a small list of sustainability drivers. None the less, the main enforcer for the sustainability practices are the customers, particularly the focal firms, who are more visible to the stakeholders (Petrini et al. 2018). The summary of the drivers is presented in Figure 6.5. The next section will discuss the barriers to sustainability.

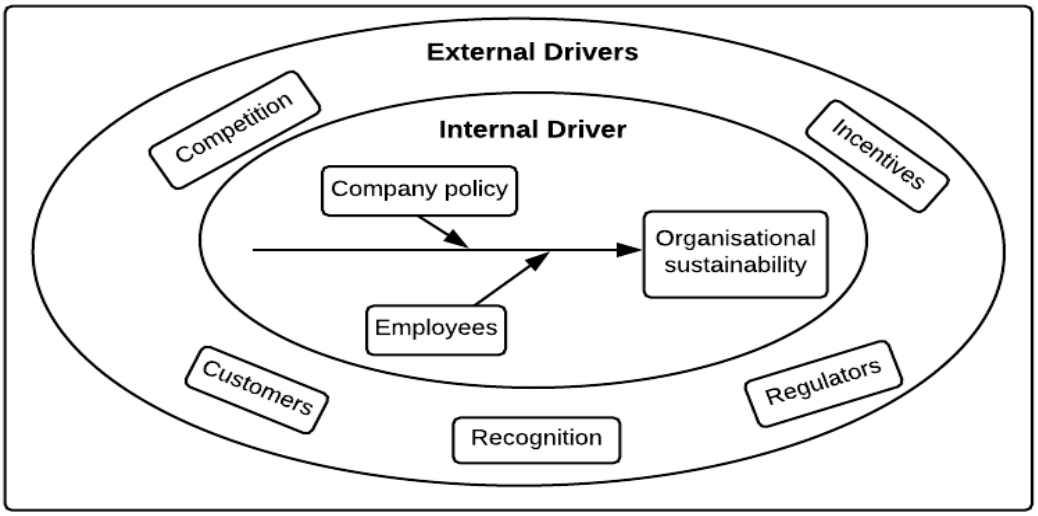


Figure 6.5: SME suppliers' sustainability drivers

Source: Author's own

6.8 Barriers to Sustainability

The section will discuss the existing barriers that hinder SMEs from practising in a sustainable manner. The focus is on the key direct and indirect barriers in the context of Zambia, which emanate within and outside the firms. The classification into direct and indirect is based on the impact of the barriers. Those that impact sustainability directly are referred to as direct barriers that could be either internal or external, whilst those that do not have a direct impact on sustainability are referred to as indirect barriers. Therefore, this section will be divided into two sections. The first sections will discuss the direct barriers, whilst the second sections will discuss the indirect barriers.

6.8.1 Direct barriers

The key direct sustainability barriers are discussed below. These are *lack of infrastructure, lack of awareness about sustainability, lack of understanding of sustainability concept and information on sustainability, lack of access to finance, the negative SME behaviour/attitude and lack of capacity.* These direct barriers are both external and internal as reported by Hillary (2004); Muduli et al. (2013).

Lack of infrastructure: According to Petrini et al. (2018), being sustainable for the majority of SMEs requires investing in resources that are not available to them. The results highlight that the inadequate infrastructure to support sustainability such as electricity, transportation, and waste bins plays a critical role in the successful implementation of sustainability practices, and directly impact the SMEs' success and economic growth. For example, power failure affects the production of goods and services leading to the production of defective goods, inadequate waste bins affects correct disposal of waste, and inaccessible roads affect the distribution of goods and service and disposal of waste and increase transportation cost as reported by Okpara (2011). In Zambia, the lack of support infrastructure to sustainability is exacerbated by the country's level of development. As a developing country, Zambia lacks the necessary infrastructure to support sustainability practices, thereby increasing the cost of implementing sustainability strategy.

Lack of awareness and understanding about sustainability: In this study low level of awareness and understanding about sustainability issues not only exists among SME owner/managers but also among the stakeholders in government, NGOs, trade associations and the local community. Some of these stakeholders may not stimulate levels of demand that are adequate to progress the sustainability agenda beyond minimum compliance with regulations. Furthermore, the policymakers have embedded sustainability in the health, safety and environmental policy, and SME owner/managers relate sustainability practices to health, safety and environmental practices. They are also not aware of the existence of the legislation on sustainability and the impact of their operations on the environment and as such see no relevance to engage in sustainability practices (Conway 2015; Ghazilla et al. 2015; Petrini et al. 2018). In addition, there is insufficient society pressure, weak legislation and capacity constraint as reported by (Johannsdottir 2015).

This may be attributed to the short-time perspective since the sustainability concept is still in its infancy in Zambia, lack of training on sustainability issues in the several high learning institutions and professional bodies, the confusion created by the several interpretations, the lack of clear and structured guidance

and the nature of relevant codes in terms of being advisory rather than mandatory. Consequently, the results support the findings by Perron (2005) and Muduli et al. (2013), who reported that the lack of awareness relates to skills and information gap.

Lack of access to finance: The findings show that lack of access to finance is a major problem amongst SMEs in Zambia. According to Keyser et al. (2000), only 24 percent of SMEs that apply for the loan in Zambia receive it. Consequently, lack of finance may exert pressure on SME owner/managers to adopt the lowest cost option rather than best value and they use it as an excuse for not addressing sustainability issues as reported by Sourani and Sohail (2011). It may also represent as a constraint to investing in more sustainable solutions especially the support infrastructure to sustainability with high initial capital expenditure, such as new product development, research and development, human resource development and acquisition of up-to-date production equipment and technology as reported by Kira and He (2012). This may be attributed to lack of funding from government and reluctance by financial institutions to loan SMEs capital, due to poor recording keeping of their transactions as a result of poor management, lack of education, lack of training, lack of awareness, lack of understanding and poor financial management as reported by Okpara and Wynn (2007). The results support Peprah (2016), who reported that financial institutions need financial records to assess the ability of SMEs to repay the loan, and (Bukvic and Bartlett 2003; Peprah 2016), who suggested that lack of access to finance also attributed to high-interest rate and high collateral requirement.

Furthermore, the results demonstrated that SME owner/managers do not consider investing in sustainability a priority as such any surplus cash that they have, that they can devote to sustainability, they will do but only if its surplus cash. Consequently, lack of access finance limits the ability of SME owner/managers to grow their business, thereby limiting their means of generating surplus finance that could be invested in sustainability practices (Okpara 2011; Kira and He 2012).

In developing countries, such as Zambia, public equity and debt markets are not well developed and firms rely on financial institutions as the main external source of financing (Hussain et al. 2006). However, in the context of Zambia, the financial institutions are reluctant to grant loans to the SMEs to sustain their development due to their behaviours such as not keeping accurate financial records, undisciplined and lack of transparency in their transactions (Peprah 2016). Consequently, the financial institutions consider SMEs a high risk and are more likely to make a bad business decision; as such they are reluctant to lend SMEs money (Berger and Udell 1998). To mitigate loan defaults and ensure good behaviour from the SMEs, the financial institutions in Zambia use high collateral and high-interest rate (Peprah 2016), which unfortunately discourages SME owner/managers from borrowing money.

For example, the base rate as determined by the central bank of Zambia is currently pegged at around 11% (November 2017). In determining the loan interest rate for the SMEs, the financial institutions add a mark-up to the base rate. The average minimum is 14%, however, due to the high risk of SMEs; the mark-up added for their loans may be as higher as 14% and depend on the category of the SMEs, type of business and the reliability of the business. In addition to the high interest rate and collateral, the financial institutions use a business proposal to assess the SMEs. A well-drafted business proposal is an indication of the SMEs' (borrower) commitment and confidence in the business plan as reported by Alliance Bank (2016). Unfortunately, most SMEs do not have skilled personnel to draft a professional proposal, as such they draft proposal that is unattractive to the financial institutions to grant them loans (Peprah 2016). Consequently, due to information asymmetry financial institutions use collateral as a protection against loan defaulting (Kira and He 2012; Peprah 2016). Therefore, the negative attitude of SMEs contributes to the lack of access to finance. Unfortunately, SMEs lack assets to pledge as collateral to access external sources of finance, hence persistent limitations on their access to financing from the formal sector. Since they cannot afford external finance easily they prioritise internal sources but even internal finance is inadequate for SMEs to achieve their initial objective of profitability and have a surplus for investing in sustainability, as reported by Kira and He (2012).

Negative attitude: It was very clear from the respondents that SME owner/managers and the community have "I don't care attitude and laisse faire attitude" to sustainability. However, Labuschagne et al. (2005), argued that a prerequisite for all sustainability is a strategy that accepts the firm's responsibility and its vital role in every society it operates in and also the global environment. Unfortunately, the findings demonstrated that SMEs consider their activities to have less impact on the environment as compared to their counterpart, the large firms and see investing in sustainability costly, which supports findings by Ghazilla et al. (2015). Consequently, they concentrate on economic performance as reported by de Kok et al. (2013). According to Upstill-Goddard et al. (2016), positive attitudes facilitates the implementation of sustainability practices. There is also anecdotal evidence from the participants that SME owner/managers mismanage the money from loan by purchasing expensive vehicles and going on an expensive holiday. This perception has been validated in some cases where banking officials saw SME owner/manager that comes to the institutions walking and only to find him/her driving an expensive vehicle after getting the loan. As such, SME owner/managers have been labelled dishonest and not transparent and riskier when it comes to lending them money as reported by Berger and Udell (1998). Due to their behaviour, financial institutions are very cautious when providing loans to the SMEs as reported by Shah et al. (2013); Bouazza et al. (2015).

Therefore, a negative attitude to sustainability affects their access to finance and investment in skills development and procedures and systems. SMEs consider their operations to have no negative impact on the environment; consequently, they do not only disregard investing in additional systems to support sustainability but also view it as an additional cost. The results support findings by Ghazilla et al. (2015), that reported on the negative attitude of the SMEs to the environment.

Lack of capacity*:* According to the findings, lack of capacity is in twofold, the inability by SMEs to engage in sustainability practices and the inability by the regulators to effectively monitor the firms' operations. In discussion capacity, respondents referred to factors undermining capacity management such as

education, training, manpower and resources. As such, in the context of this study lack of capacity relates to human resources, technological and management capacities. According to literature, technological capabilities enhance SME efficiency, reduce costs and enable rapid growth of the firm. At the same time, low technological capabilities impede and inhibit firms from reaching their full potential. Human resource capacities affect sustainability practices as much as it affects its growth. Bouazza et al. (2015) have argued that an increase in employee skills and motivation improves firm productivity and long-term sustainability of the firm. In addition, Batra and Tan (2003) argued that a well-educated and skilled workforce has a more learning and innovative abilities, a prerequisite to the successful implementation of sustainability practices. According to Olawale and Garwe (2010), management capacities are sets of knowledge, skills and competencies, which may make SMEs more efficient in their operation.

Based on the results, the managerial, technological and human resource capacities are the same that SMEs require for the successful implementation of sustainability practices. A low human resource capacity, lack of management skills and training and low technological capacities limits firms' ability to successfully implement sustainability practices as reported by Bouazza et al. (2015). According to Cassar and Holmes (2003), a firm with relatively high growth is more likely to be profitable and have a higher probability of accessing external funding or retain its profit to finance its operations and investments. Hence the lack of capacity has an impact on the successful implementation of sustainability practices.

The above discussions demonstrate that the direct barriers not only directly affect sustainability practices but are also interrelated. For instance, lack of information and lack of knowledge leads to lack of capacity and lack of access to finance. The negative attitude has a negative impact on access to finance and investment in the support infrastructure and implementation of sustainability practices. Equally, lack of access to finance negatively affects the availability of support infrastructure. Therefore, resolving one barrier is likely to have a spillover effect

on other barriers. For example, training may equip SMEs owner/managers with the knowledge and a change of attitude.

In the following section, the indirect barriers to sustainability are discussed. Although indirect, these barriers are also important to the successful and effective implementation of the sustainability practices. Previous studies have focussed on the direct barriers to sustainability when indirect barriers are equally important especially in the developing countries. Hence, the following section discusses the indirect barriers that equally affect the implementation of sustainability practices by SMEs, thereby contributing to the literature.

6.8.2 Indirect barriers

The following key indirect barriers in the context of Zambia are discussed below. These are the *poor business environment, lack of pro-SME policies, and lack of policy implementation, late payment and political interference.*

Poor business environment: The results highlight that the poor business environment is the most significant indirect barrier. This is supported by previous studies e.g. (Bouazza et al. 2015). The results further show that this barrier is very apparent amongst the indigenous local SMEs than the foreign SMEs and negatively impacts their growth. The multinational corporations give priority to the SMEs they brought from their originating countries. The SMEs in Zambia are willing to invest in sustainable solutions but only using surplus cash. Unfortunately, the business environment does not present them with the opportunities to generate that surplus cash. Therefore, a conducive business environment is an important enabler of an effective SME sector and is a top obstacle to the operation of SMEs. According to Ghazilla et al. (2015), a good business environment is a driver which motivates the implementation of sustainability initiatives. Subsequently, a poor business environment adversely impacts their competitiveness, particularly with regards to access to finance as reported by Bouazza et al. (2015).

Lack of pro-SME policies: According to the results, the unfavourable business environment discussed above, mainly affects the local SMEs due to the lack of pro-SME policies or inconsistency in policies. The example highlighted by the interviews included the lack of criteria to distinguish between local and foreign SMEs. By law, all firms should register with PACRA (Patents and Companies Registration Agency), hence considered local. The focal firms have taken advantage of this barrier to support only foreign SMEs whom they categorize as local SMEs. Thus, this barrier contributes to the poor business environment for local SMEs and limits them from business opportunities that could enable them to generate the revenue needed for investment in sustainability.

Late payment by customers: According to the results the mining firms take on average between 60-90 days to pay the SMEs after delivery of suppliers or completion of the job. The delay in payment undermines the SMEs ability to undertake another project since the delayed funds are needed to purchase inputs and wage payment. For the SMEs that borrowed the money to finance the project, the late payment may inevitably cause them to default on loan repayment with a possibility of facing liquidation. This finding is consistently evidenced in Bukvic and Bartlett (2003), demonstrating that late payment not only affects SMEs in developing countries but also developed countries. Therefore, this barrier has an impact on the SMEs' working capital, which impacts their sustainability and ultimately the ability to engage in sustainability practices.

Political interference: According to the findings, the regulatory agency such as ZEMA is an independent government regulatory agency that is supposed to conduct its mandate without any form of interference. Unfortunately, this is not the case; politicians interfere with the operations of ZEMA in regard to actualizing the environmental management law to protect their political interests. For example, they prevent ZEMA from penalizing some firms or the agency is made to reverse its sanctions on those firms they have ties with. Consequently, all firms with ties to politicians go unpunished for the environmental offences committed. This renders the existence of ZEMA toothless as there is no boundary to the politician's interests. Therefore, the actions of politicians undermines the regulatory system and the trust and confidence of business owners in the

regulatory bodies in creating an even competitiveness in the sector as echoed by Okpara (2011). This has an impact on the effective implementation of sustainability policy by firms and regulators.

This section has discussed the direct and indirect barriers that affect SMEs engage in sustainability practices. The next sections discuss the mechanism that may be employed to overcome the barriers, thereby, contributing to the literature.

6.9 Mechanisms to Overcome Barriers to Sustainability

Having discussed the barriers to sustainability, it is important to discuss the mechanism for averting the challenges or reducing their impact if they cannot be averted to enable the SMEs to participate in sustainability practices effectively. The mechanisms for overcoming barriers to sustainability put forward in chapter five have been pulled together into five key steps or actions that are the most capable of removing the barriers or reducing the impacts of barriers presented above. These are the steps and actions that need to be taken by stakeholders individually and /or in partnerships. These include:

- Organisational culture
- Proactive government
- Support network
- Awareness-raising activities
- Information technology

Organisational culture: Several scholars e.g. Linnenluecke and Griffiths (2010) have argued that for firms to fully address sustainability concerns, they need to undergo significant cultural shift and develop a sustainability-oriented organizational culture. Schein (1984) defined organizational culture as a set of beliefs, values, and assumptions that are shared by members of an organization. These underlying values influence the behaviour of organizational members, as people rely on these values to guide their decisions and behaviours (Gregory et al. 2009). Organizational culture impacts performance because it affects individual behaviours (Gregory et al. 2009). According to Cameron and Quinn

(2005), sustainability strategy tools and techniques may be present but firms may still fail to successfully engage in sustainability practices because its fundamental culture remains the same. The culture influences employee attitudes and that those attitudes, in turn, impact organizational effectiveness. According to Upstill-Goddard et al. (2016), a successful implementation of sustainability practices requires a change in organizational structure, processes and norms, which relies on organizational learning. However, learning processes of organizations are reflected in organizational culture, as such organization culture can only learn once there is collective individual learning. The employees reside in the community, as such; their behaviour is profoundly influenced by the external environment such as social norms and regulations (Petrini et al. 2018).

For instance, a number of respondents aired their views as to the environmental consciousness of local people. For instance, SME managing Director, B16 made the following comment;

> *"…when Mwanawasa was president he came up with the program keep Zambia clean and people started sweeping. But while people are sweeping you see another one throwing" by B16.*

These and many other examples are indicative of "*I don't care attitude*" which has over time been accepted by the society as part of social life. People are not ashamed of this bad behaviour and openly engage in this act of throwing litter. They do not believe that it's their collective duty to keep the environment clean but those employed to clean the street, as such overcoming sustainability barriers needs cultural change as suggested by Linnenluecke and Griffiths (2010).

The example by B19 is a clear demonstration of a fundamental problem as reported by Cameron and Quinn (2005) because while the initiative by the late president Mwanawasa appeared to have been working the fundamental beliefs of the community members remained the same. Therefore, training and education on sustainability concept as recommended by participants should target not only the employees but also the community members, to bring about a formation of a sustainable attitude influenced by the external environment.

The critical part of the culture is the top management, which set the strategy of the organisation and embodies its culture. Therefore, efforts to address sustainability must start with the top leadership. Fortunately, the majority of SMEs in Zambia are owned and managed by the same individuals, subsequently; it should be relatively easy to get their support. However, these same firms exist within a broader social and economic context, one whose constituents can have a great effect on the success or failure of any initiative. These constituents (called the stakeholders) include the government, trade associations, NGOs, consumers and the community. Therefore, training in sustainability should also target the stakeholders to bring about cultural changes.

Proactive government: According to the findings, the general consensus from the SME owner/managers, the central government needs to take a keen interest in the affairs of the SMEs sector. The participants observed that the current problems SMEs experience are mainly due to lack of proactive government that can produce simpler policies for SMEs and comprehensive and structured guidance, tools and techniques for best practice. In addition, it should ensure that there is in place legislation, regulations and policies with regards to sustainability as well as communicating and knowledge sharing at inter- and intra-organizational levels. Notably, the government need to ensure that sustainability is integrated into tendering procedures so that SME owner/managers do not adopt the lowest cost but rather the best value (Sourani and Sohail 2011). Furthermore, Collins et al. (2006) argued that the government need not take a leading role in resolving the barriers facing the SME sector but only set the compliance standards. Findings support this view, Zambian SMEs do not want the government to be directly involved in resolving the above barriers but facilitate in creating a conducive business environment, to aid in capacity development on sustainability issues at all levels and provide clear policy guidance.

Therefore, given the above, the government may facilitate in overcoming the following barriers, lack of access to finance, political interference, late payment, lack of capacity, lack of policy and effective implementation of policies, lack of infrastructure and poor business environment.

Support network: Holt et al. (2000), define support networks as the formulation of a group(s) of organizations or individuals who are able to offer assistance, advice or other forms of support on a specific problem or issue. According to Jämsä et al. (2011), networks consist of business relationships and various intertwined and interdependent nets by these relationships. They are often sponsored by industry associations which may include trade associations, industrials environmental agencies, local governments and employee organizations that may be able to overcome specific barriers to sustainability (Hillary 2000; Revell and Rutherfoord 2003). Implementing sustainability practices depends on effective organizational learning (Upstill-Goddard et al. 2016).

In this study, SMEs belong to different trade associations such as National Council for Construction (NCC), Engineering Institute of Zambia (EIZ), Zambia Association of Manufacturers (ZAM), National Association of Medium, Small Suppliers & Contractors (NAMSSC), Supplier Association and Mine Supplier Association. These associations assist in the dissemination of information, market intelligence, training, lobbying government to create a conducive trading environment for members. However, they work independently when they have comparable objectives for their members, but a member may belong to more than one association. For instance, a firm that specializes in engineering services and provides services to mining firms will belong to EIZ and mine suppliers association. Therefore, networking they may facilitate organizational learning for their members (the SMEs), which is positively related to a stronger uptake of sustainability practices for the SMEs as reported by Collins et al. (2007). According to the findings, the associations are currently only educating members on the importance of sustainability but cannot force members to engage in sustainable practices due to the absence of a legal instrument for mandatory participation in sustainability. Therefore, networks, assist in maintaining SMEs' motivation to continue to participate in sustainability programmes as reported by Friedman and Miles (2001). In addition, Jämsä et al. (2011), suggested that by offering a platform for resource development, networking alleviate the resource constraint of SMEs, thereby making the networks a vital determinant of SME

success in sustainability practices. Petrini et al. (2018), argued that the shortage of financial resources and lack of knowledge characterized in SMEs could be overcome through collaboration between organizations, since they provide needed and necessary skills. Li and Huang (2017), theorized that a strong bond between partners increases interaction leading to the development of new knowledge and solving underlying sustainability problems.

Therefore, besides motivating their members, support networks may assist in overcoming the following barriers to sustainability; lack of knowledge, lack of education, lack of awareness, cost, access to finance, and lack of infrastructure. Through organizational learning and dissemination of specialized information and market intelligence, firms may gain individual knowledge, awareness and experience in implementing the sustainable approaches within their boundaries, thereby overcoming knowledge and awareness barriers. Another barrier that may be overcome similarly is access to finance following the acquisition of skills to enable SMEs to prepare a professional loan proposal. Furthermore, resulting from the acquired knowledge and skills and overcoming of resource constraint characteristics through strategic network position, SMEs may be able to shift their worldview from treating the environment as part of the economy to treating the economy as part of the environment. In this study, SMEs consider practising sustainability costly (Lewis and Cassells 2010), when it can actually improve their financial performance in both the short and long terms. Lastly, since the network is sponsored by industry association as discussed above, it ensures overall support from policy-makers, researchers, developers and consultants to overcome the infrastructure barrier and lack of support.

Awareness-raising activities: Based on the discussion on barriers to sustainability, any effort to address the barriers must include education due to lack of literacy pertaining to sustainability issues. It has been submitted by Petrini et al. (2018) that for any real awareness to exist regarding the sustainability practices should be adopted, there must be an association between the organizational actors. The awareness-raising activities include such activities as workshops, seminars, public broadcast, media (TV and radio) and drama role play in community halls, which can be championed by the local authority, focal

firms, trade associations, NGOs and regulatory agencies in conjunction with the local learning institutions. According to Okpara (2011), organizations such as local chambers of commerce, universities and NGOs can organize management workshops and seminars to provide SME owner/managers with the fundamental skills in management, such as accounting, marketing and record keeping that they need to manage their business on a daily basis. As such, awareness-raising is most suitable for a developing country like Zambia with less developed information technology and where the sustainability concept is still in its infancy. In fact, there is already an infrastructure in place which supports these types of activities, as such, it would be relatively inexpensive to employ these mechanisms, but with different objectives. For example, the focal firms support activities which educate the community members and suppliers on safety and environmental issues, while the Kitwe Council Mayor promotes and motivates the community to engage in clean-up campaign of the city.

Because of the tools used for delivering the message, awareness-raising can also be used in increasing awareness of the society as a whole in relation to sustainability concept. Actually, the awareness-raising is the most efficient and effective means of communicating information to the general public and is aimed at changing attitudes, behaviour, and beliefs, and to make learners improve their understanding by emphasizing the importance of the concept to their present needs and that of the future generation. While developing a sense of judgement and reasoning, the learners (SME owner/managers and community members) also acquire skills and technical knowledge for practising sustainability (Willis and Willis 1996; Deignan et al. 1997; Kondo 2008; Murray 2009). Awareness-raising is also a useful technique for fostering communication and information exchange to improve the group's understanding and bring about change in behaviour for a group of mixed abilities. According to Upstill-Goddard et al. (2016), strong communication channels and commitment to training programmes increase the capacity for implementing sustainability initiatives.

Therefore, awareness-raising activities may facilitate in averting the following barriers; lack of awareness, lack of education, lack of knowledge, lack of access to finance and the negative attitude. However, for them to achieve the desired

impact with regards to sustainability there is a need for the coordination among the different actors for them to focus on sustainability practices.

Information technology (IT): IT has the potential to address the three dimensions of sustainability by enabling SC members to share information to reduce uncertainty and variability, integrate various value-added business activities, and minimise non-value added activities (Kurnia et al. 2012). Unfortunately, IT has not been fully embraced by the Zambian SME suppliers regardless it being an important component in businesses' daily activities. IT enabled sustainability practices can lead to improvement in organizational sustainability performance and bringing down cost. According to Oelze (2017), technological and logistical integration of SC members and information sharing are conducive to successfully implementing of sustainability initiatives. Therefore, in addressing sustainability, information technology can play significant roles (Melville 2010; Rahim et al. 2014). As such, reputable firms have implemented information technologies to fight against the adverse environmental effect of the firm's processes and activities (Erek et al. 2009), improve their own economic benefit and offer benefits to the society (Hasan et al. 2009).

IT includes hardware, software, communication devices, network and so on, which enable firms to capture, process, manipulate and share data and information. It has over the years provided firms with capabilities to improve their profitability, efficiency, productivity and increase their competitive advantage (Rivera and Kurnia 2016). Therefore, IT is an important tool for firms to develop sustainability capabilities (Elliot and Binney 2008). When considered from a sustainability perspective, it enables firms to standardize, capture, analyse, monitor and utilize data/ information that helps identify and change actions for the welfare of the community and environment through the development of new applications and systems (Rivera and Kurnia 2016). Furthermore, IT helps reduce the energy use by dematerialization such as replacing physical data centres with cloud computing (Erdmann et al. 2004; Melville 2010). Therefore, when fully embraced IT can enable attainment of the first four steps/actions, i.e. organizational culture, proactive government, support network and awareness raising.

In a SC in which the participants are dispersed over a considerable geographical distance, it is impractical to manage members and SC activities effectively and efficiently (Gunasekaran and Ngai 2004). As such, IT enables SC members to share information to reduce uncertainty and variability, integrate various value-added business activities, and minimise non-value added activities (Simchi-Levi et al. 2011; Rivera and Kurnia 2016). Consequently, Dao et al. (2011) proposed four key roles of IT that play an important function in organizational practices and enables firms to develop sustainability capabilities. These are automation, informating, transformation and infrastructure. For instance, the automation role is related to integration and operational and firms use IT to replace manual business processes with computerized application systems. The informating role embraces communication, coordination and decision making and firms use IT to produce useful information from the various data captured by the different information systems. The transformation role; firms use IT to re-engineer business operations and introduce suggestive changes not the firms carry on their business process. The infrastructure role is related to integration and knowledge codification and management, therefore, IT embraces hardware, software and network components to support business processes (Kurnia et al. 2012; Rivera and Kurnia 2016). The possible roles that IT can play along with the three dimensions of TBL and supplement the first four key steps/actions of organizational culture, proactive government, support network and awareness raising are as summarised in Table 6.3.

Table 6.3: The roles of IT in supporting various sustainability practices

Dimensions	Key practice	Information technology roles			
		Automation	Informating	Transformation	Infrastructure
Economic	Reducing costs	Yes	Yes	Yes	Yes
	Achieving stakeholders satisfaction	Yes	Yes	Yes	Yes
	Enhancing sales	Yes	Yes	Yes	Yes
	Creating repeat customers	Yes	Yes	Yes	Yes
	Analysing cash flow	Yes	Yes		Yes
	Analysing ROI and profit margin	Yes	Yes		Yes
	Creating new business models	Yes	Yes	Yes	Yes
	Quality initiatives	Yes	Yes	Yes	Yes
	Creating competitive advantage	Yes	Yes	Yes	Yes
Environmental	Clean/Lean production	Yes	Yes	Yes	Yes
	Eco-design of products	Yes	Yes	Yes	Yes
	Green purchasing	Yes	Yes	Yes	Yes
	Reverse Logistics	Yes	Yes	Yes	Yes
	Green Distribution/ Logistics	Yes	Yes	Yes	Yes
	Efficient resource consumption	Yes	Yes	Yes	Yes
Social	Community relations and communication		Yes	Yes	Yes
	Collaboration within company		Yes	Yes	
	Employee satisfaction and wellbeing	Yes	Yes	Yes	Yes
	Education support		Yes		Yes
	Product safety		Yes	Yes	Yes
	Purchasing from minority owned Suppliers	Yes	Yes		Yes
	Ethical considerations		Yes		Yes
	Work safety	Yes	Yes		Yes
	Human rights		Yes		Yes

Source: adapted from (Dao et al. 2011; Kurnia et al. 2012; Rivera and Kurnia 2016)

These discussions have highlighted the importance of the government in averting/reducing the impact of a host of barriers to sustainability. Therefore, it affirms the calls by the participants for active government involvement in creating a conducive environment for businesses to flourish as reported in the study. Government is a key stakeholder in developing countries like Zambia, and without its participation little can be achieved even with the presence of an active private

sector. The barriers, the mechanisms employed to overcome and the associated actors are summarized in Table 6.4.

Table 6.4: The barriers, the mechanism to overcome the barriers and the actors

Barriers	**Mechanism for addressing the barriers**	**Actors**
Lack of awareness, understanding and information	• Awareness raising activities • Support network • Organizational culture	Focal firms, local authority, local learning institutions, local chamber of commerce, NGOs, Trade association
Lack of knowledge		
Attitude towards sustainability		
Lack of access to finance	• Awareness raising activities • Support network • Organizational culture • Government policies	Focal firms, local authority, local learning institutions, local chamber of commerce, NGOs, Trade association & Government officials
Lack of implementation	• Support network • Government policies and procedures • Organizational culture	
Lack of capacity		
Lack of infrastructure		
Lack of support		
Poor business environment	• Government policies and procedures	Government officials
Late payment		
Inconsistency/lack of pro-SME policy		
Political interference		

Source: Author's own

* Awareness raising activities = workshops, seminars, public broadcast, road-shows, training and role play.

* Support network = training, seminars, workshops, information sharing, communication, collaboration, financial and technical support and encouragement, advice, networking, marketing intelligence and lobbying

6.10 Stakeholder Framework

The above sections have deliberated and critically analysed the comments and the views of the participants. This section pulls together the above deliberations and analysis to populate the stakeholder framework and facilitate its operationalisation. However, filling all the details into a single stakeholder framework diagram would make it crowded and difficult to understand.

To overcoming this problem, the stakeholder framework has been condensed and coded into sections **A, B, C & D** that are further elaborated, as shown in Figure 6.6 below. For this reason, section **A** (blue) presents the various stakeholders and their influencing pathway to initiate sustainability practices in SME suppliers. Section **B** (red) presents the SMEs' current sustainability practices, drivers and barriers and suggested mechanisms for averting or reducing the impact of the barriers so as to increase the SMEs' sustainability uptake. Section **C** (green) is the local mining SC comprising of the focal firms, first-tier and second-tier SME suppliers. The section also highlights the mechanisms for extending the sustainable practices from focal firms to SME suppliers. Section **D** (orange) is the cumulative interactions of sections **ABC** that aim at increasing sustainability uptake by SME suppliers.

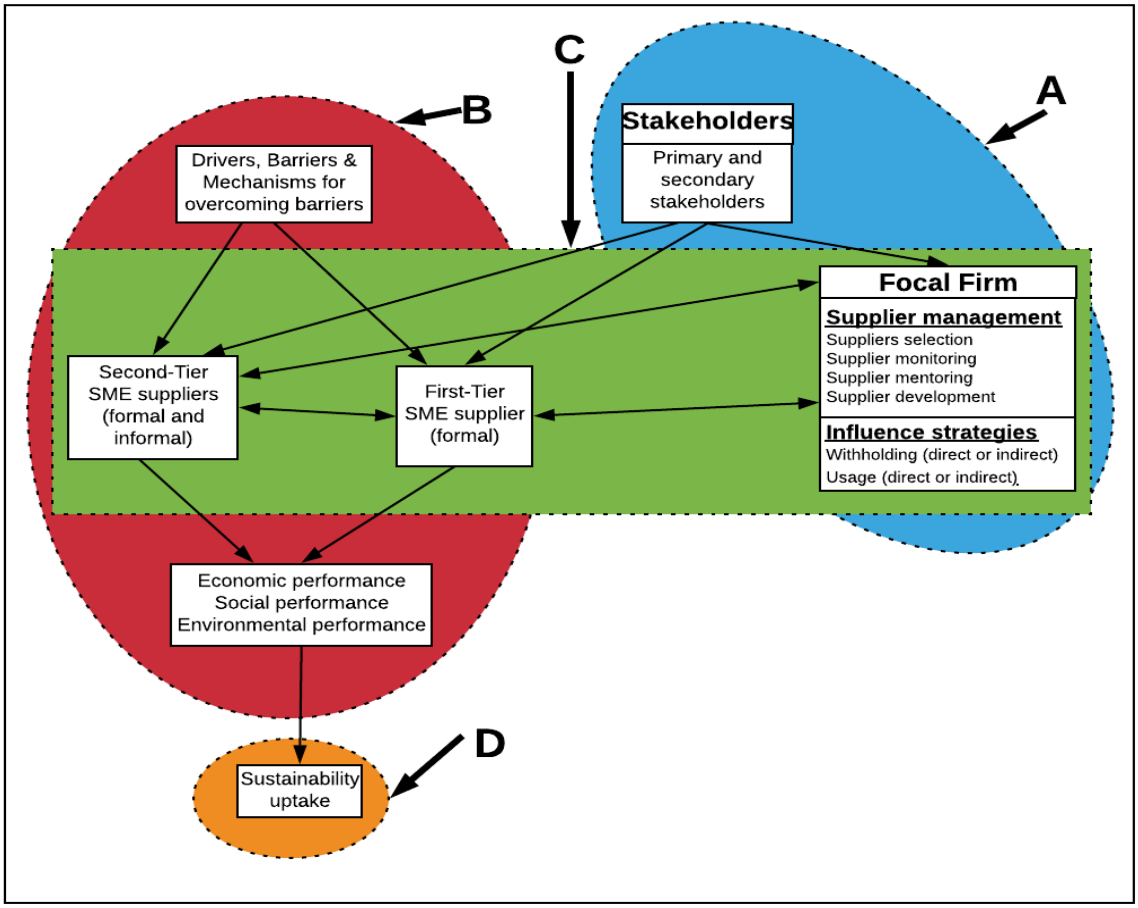


Figure 6.6: A coded stakeholder framework

Source: Author's own

6.10.1 Section A-Stakeholders, their roles and mandates

This section presents the key stakeholders that influence the SME suppliers through their roles and mandates, as presented in Table 6.5.

The stakeholders may partner with the government (the main key stakeholder) to effectively support the SMEs sector. The support should among other lead to an increase in SMEs' sustainability uptake. For example, if the government wants to develop the capacity of construction SMEs, it can partner with NCC that promote and build the capacity of the Zambian construction industry. If it wants to develop the capacity of the manufacturing SMEs, it can partner with ZAM, which promote the development of the manufacturing sector in Zambia. The stakeholders' influencing pathways is direct and indirect by controlling and monitoring and supporting the SMEs. The stakeholders that control and monitor the SMEs' operations directly influence the SMEs to engage in sustainability practices. The stakeholders that support the SMEs indirectly influence them to engage in sustainability initiatives by building their capacity. The roles and mandates for each stakeholder are shown in Table 6.5.

Table 6.5: A detailed analysis of Section A of Figure 6.6

Stakeholders	**Roles and mandates**															
	Monitor	**Control**	**Support**													
			Support	Training	Business linkage	Capacity building	Member promotion	Regulating	Policy advocacy	Lobbying	Protect	Awareness-raising	Promote sustainability	Financial support	Whistle-blower	Service provision
Government	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes
NCC	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
ZDA	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes	No	No	No
EIZ	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
ZAM	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	No
ZEMA	Yes	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No	No
NGOs	No	No	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	No
Trade associations	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Local authority	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes
Local community	Yes	No	No	No	No	No	No	No	No	Yes	No	No	No	No	Yes	No
Focal firms	Yes	Yes	Yes	No	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No	No
Financial institutions	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Employees	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No

Source: Author's own

6.10.2 Section B-The current sustainability practices

This section presents the current sustainable practices, as shown in Table 6.1, page 227. It further, presents SMEs' sustainability drivers and barriers that may hinder them and advocates the mechanisms for averting or reducing the impact of the barriers so as to increase the sustainability uptake by SMEs, as shown in Figure 6.7.

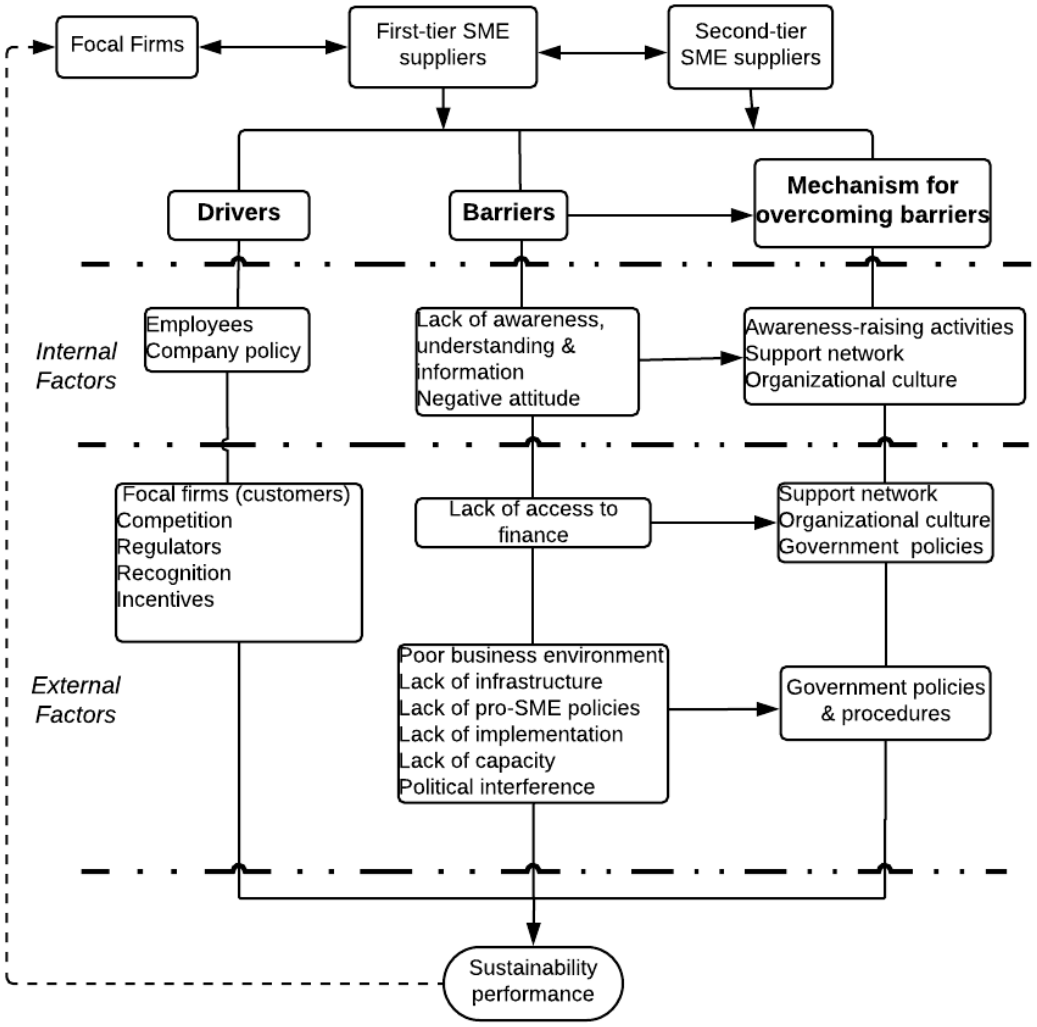


Figure 6.7: A detailed analysis of section B of Figure 6.6

Source: Author's own

Figure 6.7, is a detailed section B outlining the drivers, barriers and the mechanisms for mitigating the barriers. The drivers include the customers, regulators, competition, incentives and recognition as external drivers and company policy and employees as internal drivers. The direct barriers included

lack of infrastructure, lack of awareness about sustainability, lack of understanding of sustainability concept, lack of access to finance, the negative SME behaviour/attitude and lack of capacity. The indirect barriers included poor business environment, lack of pro-SME policies, and lack of policy implementation, late payment and political interference. The mechanisms for averting and/or reducing the impact of the barriers are shown in Table 6.4, page 263. Therefore, if the government want to address the challenges facing manufacturing SMEs and promote sustainability agenda in the manufacturing sector, it would partner with ZAM and ZEMA whose mandate is to ensure the sustainable management of natural resources and protection of the environment.

6.10.3 Section C-Local mining supply chain

This section presents the members of the local SC involved in the sustainability practices, as shown in Figure 6.8.

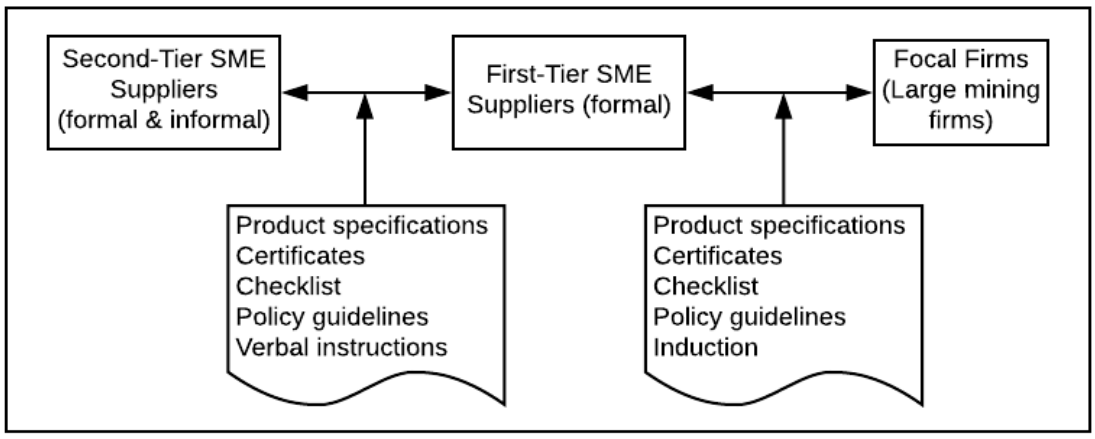


Figure 6.8: Local mining SC members and methods for extending sustainable practices.

Source: Author's own

The players in this local mining SC are the focal firms (large multinational corporations), first-tier and second-tier SME suppliers. The focal firms are the leading firms, as such, they govern the SC. The focal firms are responsible for ensuring that the SC is sustainable, hence, guidelines (code of conducts) for adhering to sustainability practices originate from them. The focal firms should

ideally monitor all the relationships with the upstream suppliers. But as discussed in Chapter two, concentrate on maximizing their return on investment and sub-contracting all non-core operations. Therefore, the mechanisms for extending sustainable practices between the focal firms and first-tier suppliers are product specifications, certificates, policy guidelines, checklist and induction. Whilst the mechanisms for extending the sustainability practices between the first-tier and second-tier SME suppliers are product specifications, certificates, policy guidelines (verbal and non-verbal) and checklist, as shown in Figure 6.8. This makes the first-tier suppliers agents for the focal firms, responsible for controlling sub-suppliers. Therefore, the SC highlights the role and value of SMEs in the mining industry, and not just the formal but also the informal SMEs.

6.10.4 Section D-Outcome of ABC interactions: sustainability uptake

This section presents the interactions of sections **ABC.** That is, if the stakeholders successfully manage to influence the SME suppliers so that the SME suppliers are motivated to adopt sustainability initiatives, and are able to overcome/mitigate their barriers, the relationship should lead to an increase in sustainability uptake.

In conclusion, and pertaining to sustainability or triple bottom line, these deliberations and the results indicate that the SME suppliers in the SC do engage in sustainable practices but focus more on economic dimension. This is not surprising given their motivation for starting a business, which is economic survival, and the DA signed between the mining firms and the government, which allows mining firms to strategize on maximizing return on investment by focusing on their core business of mining. By virtue of their participation in the mining SC, means the SMEs also engage in social and environmental dimensions in addition to economic dimension, since it's a requirement by the end-user (mining firms) and the regulators, which all mine suppliers must comply with since failure to doing so would result in a loss of business. Hence, this demonstrates that sustainability practices are practised in the mining areas. However, it is not known whether the SME suppliers extend the practice of sustainability outside the mining areas where there is no strict monitoring.

6.11 Implications of the findings to other developing countries context

Although this research reflects the reality and the particularities of the Zambian context, however, the findings of qualitative inquiries remain transferable (as opposed to generalizable in quantitative research terms) to other contexts and this applies to the current research.

The findings of the research have been synthesized in a research framework which can be operationalized in a government dominated contexts like that of developing countries. Therefore, the findings of the research are relevant as follows;

First, the proposed research framework provides the decision-makers and practitioners with a supporting tool for analysing and understanding the SME environment in developing economies, thereby providing a systematic way of examining the sustainability phenomenon in the context of informal SMEs.

Second, the research delivered the key stakeholders and their roles and mandates in controlling and monitoring and supporting the SMEs to influence them to engage in sustainability practices. Therefore, it has delivered the key stakeholders that policy-makers can identify to partner with the government to effectively support the SMEs sector.

Third, the research has presented the current sustainability practices of the SME suppliers, their drivers and barriers and the mechanisms for addressing the barriers to sustainability. Thus, providing important insights to policy-makers and practitioners for addressing the SME barriers and formulate incentive mechanism that may increase their performance towards economic contributions and sustainability take-up.

Fourth, the research has delivered a mechanism for extending sustainable practices from focal firms to lower-tier (sub-suppliers) suppliers. This is relevant to the decision-makers and practitioners for the recognition and visibilization of the role of the informal SMEs in developing economies.

Therefore, the research framework can act as an instrument for other developing countries in the sub-Saharan region for the policy-makers and practitioners to develop policies that guide sustainability practices of SMEs. According to the UNDP (2015), sub-Saharan countries share similar political, poverty levels, inequality, environmental issues, economic problems, social polarization issues, and religious. Therefore, the proposed research framework can be utilized and operationalized in these countries to mitigate the influence of unfavourable factors and improve the economic contribution and sustainability uptake by the SMEs.

SMEs have been recognised for the role they play in the economic growth of both developed and developing economies (Ghazilla et al. 2015). In developing countries, they contribute towards employment generation, leading to more equitable income distribution, poverty alleviation and provide linkages with the large enterprises. Consequently, they are the bedrock of many economies and a source of innovation and entrepreneurial spirit (Hillary 2000; Luetkenhorst 2004; Fox 2005; Arinaitwe 2006; Ayyagari et al. 2007; Hilson 2009; Aghelie 2017). However, their contributions to the developing countries have not been effectively harnessed due to numerous challenges which governments in developing countries have been trying to address. Therefore, the proposed research framework can be utilized and operationalized in these sub-Saharan developing countries to strengthen the SMEs sector so that their contributions to the economic development may be harnessed. For instance, the policy-makers and practitioners in sub-Saharan developing countries can use the findings on drivers and barriers to address the numerous challenges facing the SMEs sector. The policy-makers can use the findings of the study to identify the stakeholders that can partner with the government and provide a more effective support to the SMEs sector. Therefore, the policy-makers and the stakeholders can create a governance structure that is lacking in Zambia and other developing countries and effectively supports the SMEs sector.

Previously, the majority of academics have focused on identifying the barriers that hinder SMEs growth and their economic contribution e.g. (Studer et al. 2006; Häkkinen and Belloni 2011; Ibrahim et al. 2012; Al Zaabi et al. 2013; Barve and

Muduli 2013; Muduli et al. 2013; Ghazilla et al. 2015; Johannsdottir 2015; Tay et al. 2015; Aghelie 2017; Petrini et al. 2018), this research has gone a step further by suggesting the mechanism for averting and/or reducing the impact of the barriers. Some of the identified barriers are common to SMEs in both developing and developed countries. Therefore, the proposed research framework can be utilized and operationalized in other developing as well as in developed countries for addressing the SMEs barriers.

Another implication of the proposed research framework to other developing countries settings concerns the informal SMEs. In developing countries, the majority of the SMEs are informal and make a substantial contribution to employment and poverty reduction leading to more equitable income distribution (De Gobbi 2011). Unfortunately, this large body of SMEs sector is less visible, unrecognized and does not contribute to the government treasury. The proposed research framework can be utilized and operationalized in providing a voice for this less heard from the body of SMEs in sub-Saharan developing countries, thereby, providing a mechanism for influencing their behaviour so that they start contributing to the treasury.

Lastly, the implication of the findings to other developing countries settings concerns the barriers to sustainability. Sustainability research in sub-Saharan countries is still undeveloped. Therefore, the findings of this study will contribute towards sustainability research in the region. While technological and economic activity may be the direct cause of sustainability issues, individual beliefs, cultural norms and societal institutions guide the development of that activity. Therefore, the findings of this study can be applied in sub-Saharan countries to find a lasting solution to sustainability challenges, by adopting a cultural approach to transform the organizations and the people.

6.12 Summary

This chapter has presented a discussion of research findings in relation to the literature reviewed in Chapter 2 and 3. The central premise of this research is that SMEs in Zambia do practice in a sustainable manner. However, they are

hampered by some barriers, such as lack of awareness, knowledge, infrastructure to support sustainability, access to finance and poor business environment among others. The findings highlighted the sustainable activities under each of the sustainability dimensions the SMEs practice, what motivates them, the barriers they face and the mechanisms for averting or reducing the impact of the barriers.

This chapter has also presented a discussion on the various stakeholders that directly and indirectly influence SMEs' engagement in sustainability through their roles and mandates and the mechanisms stakeholders use in extending sustainability practices from focal firms to sub-suppliers. Although the government was revealed as the key stakeholder, the focal firms have great influence in ensuring participation of all the SC members in sustainable practices; thus, extending the sustainability practices to the entire local SC to make the SC sustainable. The mechanisms for extending sustainability practices include product specifications, certificates, checklist and policy guidelines and induction. The choice of such methods is because the SMEs in Zambia do not manufacture the supplies to the mining firms but import them from OEMs. The SMEs drivers and barriers and mechanism to address the barriers to sustainability were also discussed and showed that sustainability initiatives are mainly driven by external factors.

The chapter concluded with a discussion on the implications of the study to confirm that the outcome of the research (research framework) can be utilized and operationalized in other developing countries such as those in sub-Saharan countries. The next chapter presents the research conclusions.

7.0 CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

The focus of this chapter is to present the conclusions of the research, which has explored the sustainability practices of SME suppliers in the mining SC of a developing country, Zambia. The study is grounded in stakeholder theory because it provides insights for examining the relationships between the SME suppliers and stakeholders in the mining SC. Using a semi-structured interview research method, the researcher explored the influence of stakeholders in the sustainability practices (economic, environmental and social dimensions) of SME suppliers.

The chapter begins with a review of the research aim and objectives. The significant findings of this research are then discussed in light of the research aim and objective and questions. The contributions of the research to academia and practice are also examined. The final section of the chapter outlines the limitations of the study and presents recommendations for future research.

7.2 Revisiting the Research Aim, Objectives and Questions

The focus of the study was to understand the SMEs' sustainability practices, the influence of the stakeholders, drivers and barriers and the mechanisms for mitigating the barriers in order to increase sustainability uptake. The overall aim of the study was identified as follows:

To provide the decision makers (policymakers and senior managers of focal firms) with a better decision-making support tool

In order to address this overall aim, the research objective was formulated as follows:

To develop a detailed stakeholder framework that helps to analyse and better understand the SMEs environment with regard to sustainability practices in the mining industry in Zambia.

In order to deliver the research objective, two primary research questions that were further split into seven sub-research questions were formulated. The first sub-research question is associated to the first primary research question, while the remaining six are associated to the second primary research question. The ensuing sections present key findings, thereby addressing the primary research questions and conclusions reached, drawn in the light of data collected, and guided by the stakeholder theory and research framework presented in Chapter 3 (see Figure 3.7, page 116).

7.2.1 Primary research question one

Do SME suppliers in the mining supply chain engage in sustainability practices?

The associated sub-research question was formulated as follows:

RQ1) What are the current sustainability practices among the SME suppliers in Zambia?

The findings indicated a diverse understanding of sustainability, but split into two main groups. One group of participants' understanding of the concept was aligned with the three dimensions of sustainability, thereby clearly showing a connection to sustainability. The other group of participants (the majority) understood the concept in terms of business viability or survival. Thus, the latter group's responses agreed with Eijdenberg and Masurel (2013), that people in developing countries are driven to start a business for economic survival, due to poverty and lack of employment (de Kok et al. 2013; La Hovary 2013).

The results of the dialogue with SME owner/managers on the current sustainability practices revealed that SMEs in Zambia did practice sustainability, as shown in Table 6.1, page 227. However, they only engaged in sustainability when trading with and/or within the mining premises and did not participate in sustainability practices when operating or trading with non-mining customers. SMEs are not aware of the benefits could bring from adopting sustainable

practices. They consider their operations to have no or minimal impact on the environment and that the adoption of sustainability practices will add to the cost since the customers are not willing to pay for the extra cost. They also consider the environment a responsibility of the government and large multinational mining corporations. Their immediate concern is to maximise profit or put food on the table and pay tuition fees for their school going children. Therefore, the results suggest that the motivation to engage in sustainability practices is not internally driven but externally driven by the customers (the focal firms).

7.2.2 Primary research question two

How are the SMEs influenced by the stakeholders when adopting sustainability practices in the mining supply chain?

The six associated sub-research questions were formulated as follows:

RQ2) Who are the stakeholders and what do they expect from SMEs suppliers in the mining SC?

RQ3) How do SME suppliers transfer sustainability requirements imposed by their stakeholders to their suppliers?

RQ4) How do stakeholders engage SME suppliers in sustainability initiatives?

RQ5) What barriers do SME suppliers face when adopting sustainability practices?

RQ6) What are the mechanisms for overcoming the barriers SME suppliers face in implementing sustainability practices?

RQ7) How can SME suppliers be motivated to practice sustainable development?

RQ2: Who are the stakeholders and what do they expect from SME suppliers in the mining SC?

According to the findings, the stakeholders with respect to sustainability include suppliers, employees and the focal firms as primary stakeholders, and the government, local community, NGOs, local authority, financial institutions, ZDA, regulators and trade associations as secondary stakeholders. The study further revealed the government as the key stakeholder in regard to business sustainability. The government is responsible for the creation and interpretation of policies, laws and regulations thereby strengthening and/or weakening firm's legitimacy as alluded by Newth (2016). However, with regard to sustainability, the key stakeholders were the focal firms, who govern the SC and provide direct contacts with end customers. The focal firms are also responsible for selecting the SME suppliers and making the strategic decisions of the SC. Consequently, the stakeholders focus their attention on them and hold them responsible not only for their own but also on the environmental and social performance of their suppliers.

However the stakeholder expectations depends on the stakeholder interest, which can be summed up into two, SME performance and compliance. See table 7.1 for details.

Table 7.1: Stakeholders and their expectations of SME suppliers

Stakeholders	Expectations of SMEs
Government	Expect SMEs to grow and contribute to the economic growth regarding job creation, poverty alleviation, etc leading to equity in income distribution.
Focal firms	They expect SMEs to timely deliver goods and services of high quality in accordance with specifications.
Regulators (ZEMA, Mine Safety Department and Local Authorities)	They expect SMEs to be compliance with legislation, regulations and government policies with regard to sustainability.
Zambia Development Agency	They expect SMEs to be competitive
Employees	SMEs are expected to generate revenue by getting orders and money to enable them to pay wages and salaries when due.
Trade associations	SMEs as members are expected to pay subscription and to provide goods and services of high standard of quality and not a danger to the public (customers).
NGOs	They have similar expectations as trade associations. The difference is that members pay nothing to join or continue being members. SMEs are expected to provide their customers with goods and services of high standard of quality and not a danger to the public.
Local community	Expect SMEs to engage in social and environmental activities: pollution avoidance, donate to charities, create jobs for the locals, contribute to the local economy by creating jobs for the locals and be transparent in their business operations. Leading to social and environmental performance,
Financial institutions	They need SMEs to perform, generating revenue by getting orders to enable them repay their loans

Source: Author's own

Regulators expect the SMEs to comply with legislation, regulations, and government policies regardless of their performance. The government, employees, focal firms, trade associations, NGOs, financial institutions and local community have their expectations tied to SME performance. For example, the government expect contributions for economic growth, focal firms expect timely delivery of quality goods and services and in accordance to specifications, financial institutions expect loan repayment plus interest to happen when due and employees expect the wages and salaries paid when they are due. The local community expects job creation for the local population and charitable

contributions, while NGOs and trade associations expect the SMEs to provide their customers with goods and services meeting the standards of quality. Trade associations also want members to pay a subscription. Therefore, these expectations are tied to performance because SMEs can only contribute to the economy, pay wages and salaries, repay loans and create jobs when their performance is good or businesses viable.

RQ3: How do SME suppliers transfer sustainability requirements imposed by their stakeholders to their suppliers?

The results showed that the focal firms are responsible for ensuring that sustainability practices are extended upstream to the first and second tier SME suppliers. The governance mechanisms used for extending the sustainable practices, which apply to both parties are product specifications, certificates, policy guidelines and checklist, the only exception being induction being used to first-tier suppliers. The practices are borne out of the need to comply with sustainability standards (Upstill-Goddard et al. 2016), assure and provide the focal firms with the evidence that SME suppliers are in compliant with sustainability standards (Hamann et al. 2015). They also enable the focal firms to collect labels and certificates to authenticate the compliance with standards (Harms et al. 2013), and provide them with evidence of the actions undertaken by the SMEs to improve their environmental performance (Jenkins 2004b) and help them to uncover deficits at an early stage, in order to initiate corresponding counteractive measures (Kopfer et al. 2005; Large 2006a), and avoid punitive measures. Therefore, they are indirect management approach based on standards (Gimenez and Tachizawa 2012), which involve a direct approach in extending the sustainable practices to the first-tier suppliers and indirect approach to the second-tier suppliers (Tachizawa and Wong 2014). Consequently, the findings are consistent with literature with regard to the approach but differed in contextualization and operationalization.

RQ4: How do stakeholders engage SME suppliers in sustainability initiatives?

In this study, the stakeholders engage the SME suppliers for sustainability initiatives in accordance with their roles, which is controlling and monitoring and supporting. The focal firms, regulators, local authority and local community directly influence the SMEs to engage in sustainable practices by controlling and monitoring their operations. This is because the SME suppliers are unwilling to address their environmental impact unless demanded by customers. This group of stakeholders are forceful and does not provide the SMEs with financial or technical assistance. Lee and Klassen (2008) have argued that such an approach is an arm's-length. However, they are only able to effectively influence the operations of the SMEs supplying to the mining focal firms due to lack of capacity.

The government, NGOs, trade associations, ZDA, financial institutions and the employees support the SMEs by building their capacity to improve their business operations including sustainability uptake. Therefore, this group of stakeholders is more nurturing and indirectly influence the SMEs to engage in sustainability practices. As such, the findings support (Ponte and Gibbon 2005; Reuter et al. 2010; Gimenez and Tachizawa 2012), who argued that such an approach is a hands-on approach.

Therefore, the influence of stakeholders applies only to those SMEs operating in the mining firms' geographic areas to engage in sustainable practices. The SMEs that operate outside the proximity of mining firms and supply non-mining focal firms are in most cases left to operate with minimal stakeholder scrutiny. Consequently, the SMEs choose to pursue their initial motivation for business sustainability.

RQ5: What barriers do SME suppliers face when adopting sustainability practices?

Although the SMEs engage in sustainability practices, they are burdened with many challenges that emanate both from outside and within the firms, which

directly and indirectly hinder their participation in sustainability practices. The key direct barriers revealed in this study include lack of infrastructure to support sustainability, lack of awareness and understanding about sustainability, lack of access to finance, negative attitude to sustainability, and lack of capacity. Whilst the indirect barriers included poor business environment, lack of pro-SMEs policies, late payment by customers and political interference. The indirect barriers are pertinent in the context of Zambia because the dialogue with the SME owner/managers disclosed that majority of them sustainability is keeping the business alive and not TBL. They only engage in sustainable practices if these generate surplus revenue and if required to do so by the customers and regulators. Consequently, indirect barriers impact on their ability to generate revenue of which the surplus could be invested in sustainability practices, hence acting as indirectly barriers.

RQ6: What are the mechanisms for overcoming the barriers SME suppliers face in implementing sustainability practices?

To move the sustainability agenda forward and increase the sustainability uptake of the SMEs the barriers need to be mitigated (if not stopped) by addressing five key steps of Section 6.9, page 254 i.e. organizational culture, pro-active government, support network, awareness-raising activities and information technology.

In order to address the above five key steps Sourani and Sohail (2011), has proposed four key parties that are capable of removing barriers to sustainability. These include 1) government (including regulatory bodies), 2) professional/educational bodies, 3) the supply chain and 4) users.

The government have an important role to proactively provide consistency pro-SMEs policies, structure guidance, tools and techniques as well as demonstration and best practice. In doing so government may facilitate mitigation of such barriers as lack of pro-SMEs policies, access to finance, poor business environment, political interference, late payment and lack of implementation of sustainability policies, thereby providing support to the SMEs sector. The

professional and educational bodies (such as trade associations, local authorities, focal firms, NGOs in collaboration with local learning institutions) play a key role by providing training and education with regard to increasing the awareness of community members, SME owner/managers and their employees in relation to sustainability concept. Through training and education, the local community and SME owner/managers and employees may begin to understand the sustainability concept and bring about a change in behaviour and attitude leading to a change in organizational culture. The users (focal firms and employees) may play a key role by demanding for sustainable products and enhance the triple bottom line performance of SMEs. According to (Upstill-Goddard et al. 2016), the commitment to training programmes increases the capacity for implementing standards. Therefore, awareness-raising through training and education may address such barriers as lack of awareness and understanding, lack of knowledge, negative attitude towards sustainability and lack of access to finance.

Through integration, SC members can support and networking to increase the chances of addressing sustainability, since many benefits of sustainability are normally realized over a long term (Sourani and Sohail 2011). Zambian SMEs are affiliated to various organisations such as National Council for Construction (NCC), Engineering Institute of Zambia (EIZ), Zambia Association of Manufacturers (ZAM), National Association of Medium, Small Suppliers & Contractors (NAMSSC), Supplier Association and Mine Supplier Association, which can technically and financially support them. By networking, they can support one another and at the same time be offered assistance, advice and other forms of support on sustainability and other problems related to their business operations. Therefore, support and networking may facilitate mitigation of such barriers as lack of awareness, understanding and knowledge, negative attitude, access to finance, lack of capacity, infrastructure and support.

For training and education, support and networking and information sharing to be effective, the SMEs sector needs to embrace IT. IT may play such roles as communication, coordination, knowledge codification and management, decision making, proactive sharing of information and integration in a firm (Kurnia et al.

2012). For example, integrating IT can facilitate and enhance training, support and networking by capturing, processing, manipulation and sharing of data and information. Hence, IT enables firms to standardize, capture, analyse, monitor and utilize data that helps identify and change actions for the welfare of the community and environment through the development of new applications and systems. The roles of IT in supporting sustainability practices are played out in the three dimensions of TBL. For example, with regard to economic dimension, practices include creating competitive advantages and enhancing sales, while in terms of environmental dimensions, practices include lean production and green distribution, and whereas social dimension, the practices include community relations, human rights and work safety (Rivera and Kurnia 2016). Consequently, information technology provides the firms with capabilities to improve their profitability, efficiency and productivities

RQ7: How can SME suppliers be motivated to practice sustainable development?

In regard to the motivation for engaging in sustainability practices, there are external and internal drivers that may motivate the firms to move from passive to active engagement according to Figure 6.1, page 229. The external drivers are mainly customers (the focal firms), followed by regulatory requirements and to a lesser degree the competition. The internal driver is company policy and employees.

According to Figure 6.1, page 229, meeting customers' and regulatory requirements provide the firms on the left side with a steady flow of business from the focal firms, thereby enticing the firms with more money. This may entice the firms on the right side to move to the left side for more money. Competition is considered more as a motivation for economic survival and less for sustainability. This is because when examining business competition, the results showed that firms imitate their rivals' activities that are appealing to people (customers), which most often are social and/or environmental dimensions.

With regard to internal drivers, the study revealed that all suppliers to the mining firms have a company policy on sustainability, referred to as Health, Safety and Environmental Policy. Its purpose is not for adherence to social and ethical principles but to win business projects (contracts) from the focal firms. The employees, based on the results, do not initiate sustainability agenda but are key in the implementation process of sustainability practices. Therefore, the internal driver is the formalization of engaging in sustainability via a company policy.

Therefore, Zambian SMEs engage in sustainability practices due to the external pressure from largely the customers and regulators. However, in a similar study by Choongo et al. (2017), they found that internal motivations (financial motivation and moral and ethical motivation) are the reasons why SMEs adopt community-CSR and environmental-CSR practices in Zambia. The authors examined the motivations to engage in different CSR activities by Zambian SMEs. Therefore, their findings contrast with the findings of this study. This disparity can be attributed to the methodological approach. Choongo et al. employed quantitative research and questionnaire as research method, whereas, this study adopted qualitative research used semi-structured interviews for data collection. Therefore, the motivation for starting a business venture in developing countries is for economic survival.

7.3 Contribution of the Research

7.3.1 Contributions to academia

The current study contributes to academia in a number of ways.

- First, the extant literature on sustainability is dominated by research on large firms, whilst studies on SMEs and indeed sustainability have mainly been conducted in developed western and developing Asian countries whose economies are far ahead of economies in sub-Saharan African countries. By conducting the study in a developing sub-Saharan African country, Zambia, this research moves the discourse on sustainability forward by empirically exploring sustainability practices in the context of SME suppliers in the mining SC of a developing country. With regards to

Zambia, this is the first comprehensive study which addresses these gaps in knowledge by exploring the sustainability practices of SMEs and moves the field forward by bringing in a developing country perspective to the debate surrounding sustainability.

- Second, another salient contribution of this research to the existing knowledge on sustainability is in the development of the stakeholder framework, Figure 6.6, page 264, which has provided a systematic way of examining the sustainability phenomenon in an SME context. Studies of a developing country perspective are essential in the sustainability debates since the dynamics and challenges of these contexts differ from those of developed countries. For instance, developing countries SMEs are resource-poor and operate in an underdeveloped institutional environment, have limited formal education, low income earning and from a poor background.

- Third, previous studies on SMEs have investigated only the drivers and barriers to sustainability initiatives. This research is important in that it moves the discourse on sustainability forward and addresses this gap in knowledge by empirically exploring the barriers from a direct and indirect perspective. It then discusses the mechanisms for mitigating them if they cannot be averted to enable the SMEs in developing country participate in sustainability more effectively, Figure 6.7, Page 267.

- Fourth, this research contributes to the theory of sustainability by highlighting the strategic use of stakeholders to influence the SMEs in sustainability initiatives. It is important to note that stakeholder theory advocates for the involvement of all parties affected and/or that affect sustainability phenomenon. However, the debates on sustainability in the sub-Saharan African countries have marginalized the SMEs. Therefore, this study advances the discourse on stakeholder theory by empirically presenting a mechanism, Figure 6.1, page 229, for extending or involving the informal SMEs in the sustainability phenomenon and the role of

stakeholders. This study has also contributed to the theory by highlighting the transfer strategies for sustainability requirements for the achievement of a SSC in a developing country context.

- Fifth, this research makes another significant contribution to the developed methodological framework. The existing frameworks for extending or transferring sustainability practices to SMEs have been developed in developed countries and for formal SMEs. This study addresses this gap and contributes to the literature by developing a framework that provides a mechanism for extending sustainability practices from focal firms to primary and secondary formal and informal SME suppliers in developing country context, Figure 6.8, page 268.

- Finally, this research makes another vital contribution to literature by highlighting the role of first-tier SME suppliers as a bridge between focal firms and upstream suppliers in propagating sustainability standards. In doing so, it recognises the value of the informal players within a SC in a developing economy, thereby providing a voice to less heard from a body, Figure 6.8, page 268.

7.3.2 Contributions to the practitioner community

The contributions of this research to the practice is in the form of key outputs, the engagement profile of SME suppliers in the mining SC, Figure 6.1, page 229 and the stakeholder framework, Figure 6.6, page 264.

The stakeholder framework has three principal sections; Section A that presents the key stakeholders that support, control and monitor the SME suppliers thereby influencing them to engage in sustainability practices. Section B that presents the drivers and barriers to sustainability practices of SMEs as well as the mechanisms for mitigating them if not stopping all together. Section C presenting the participants in the local SC and how the sustainability requirements are extended from focal firms to first-tier and second-tier suppliers. Figure 6.1, presents the profile of SMEs engaged in sustainability practices and those not

engaged. In addition, it presents the motivations for engaging and not engaging in sustainability practices. Therefore, the contributions of this study are essential to the policy-makers and managers are as follows;

- First, the research outputs Figure 6.1 and 6.6, have important implications to the policy-makers in Zambia because they provide them with a supporting tool to assist them in the formulation of policies and design of programmes to engage SMEs in sustainable practices. SMEs face many impediments in their pursuit to engage in sustainability practices. Therefore, using the findings of this study especially from the analysis of the SME barriers and drivers to engage in sustainability practices, the senior managers and policy-makers may be able to design better code of conducts (leading to attainable service level agreement and good understanding), thereby motivating the SMEs.

- Second, Figure 6.6 Section A provides significant practical implications to policy-makers by empirically identifying the key stakeholders that support and influence the SME suppliers in developing country, Zambia. Therefore, the policy-makers can use the findings of this study to identify suitable stakeholders to partner with government to support SMEs sector more effectively. In addition, the developed stakeholder framework provides a valuable support tool for various sustainability stakeholders.

- Third, Figure 6.6 also contributes to the practice by giving insights into issues with regard to stakeholder relationships and identifies the factors that support or undermine the successful relationship, the drivers and barriers.

- Finally, Figure 6.1 contributes to the practice by identifying the factors currently motivating the SMEs engage in sustainability practices and at the same time those preventing them from engaging in sustainability practices.

Therefore, based on the findings and contributions, the recommendations for motivating the SMEs engage in sustainability practices are proposed for policy makers in the Government:

- The government should create a meaningful and comprehensive policy to improve the current business environment, which is currently not conducive to the development of the SMEs and indeed the private sector.

- The government should formulate policies that will make sources of financing from commercial banks, finance companies, microfinance accessible by SMEs. This should include measures such as reforms of the interest rates, collateral requirements and their restrictive regulations and operations, which discourage borrowing and offer more credit facilities to Zambian SMEs that continuously complain about high-interest rates and the high collateral requirement for loans.

- The government should undertake reforms of the existing policies and regulatory framework to strengthen the regulatory system that has been polarized by the politicians.

- The policymakers should strengthen the legislative and regulatory framework for the creation and development of SMEs by designing rules that prioritize the SME sectors (especially the local SMEs), in addition, policies to promote SMEs needed to be tailored to each sector and to set qualifying criteria for local and foreign SMEs.

- The policymakers should ensure that the policies formulated are successfully implemented to achieve their intended goals.

- The government should authorize special capital from the central bank to commercial banks purposely to lend SMEs since commercial banks are the giant player in the lending industry.

- Government through central bank should create strategies to stimulate commercial banks to increase their lending towards the SMEs sector.

Despite the contributions of the thesis, the study is not without its limitations which are discussed in the ensuing section.

7.4 Limitations of the Study

This research has limitations like all research studies. The limitations are generally centred on the choices regarding the data collection and methods of analysis and the researcher's choice on what to do or not to do, as follows;

- Due to the exploratory nature of this study, the current study was conducted on SME suppliers in the Copperbelt region. Therefore, the findings of this study do not extend to the whole of Zambia's SMEs. This research was carried out only to gain an understanding of sustainability practices and how the stakeholders influenced them in the mining SC. Furthermore, by concentrating mainly on the Zambian context, the findings may not necessarily reflect sustainability understanding and practices in the entire sub-Sahara region. However, they generate useful insights into a developing country context, in which technology, political, social, economic and environmental dynamics are similar.

- In exploring the sustainability practices of SMEs, the sample of the SMEs selected were those supplying to the large mining firms. This might not be representative since this study has not investigated the countrywide sustainability practices by SMEs in other sectors and supplying to non-mining focal firms.

- The final limitation of this study is in the heavy reliance on interviews as a source of primary data. This is because the interviewees, as representatives of their respective companies, may engage in impression representation that is making big claims regarding the sustainability practices of the companies.

7.5 Recommendations for Future Research

These limitations of the current study pave the way for future research opportunities. One research avenue that scholars should pursue is to expand this notion of sustainability to all the SMEs sectors. Such future research could explore the phenomenon of sustainability in different SME sectors in Zambia.

Another avenue for the future research opportunities could take the form of theory testing. Positivist researchers might want to build on the insights generated in the current research and test it on a large sample of SMEs in Zambia or across different sub-Saharan African countries, to validate the findings of the study and apply them to the whole SMEs sector in these contexts. Such a study could contribute significantly to the sustainability practices of SMEs in developing countries.

Another opportunity for research is to take this study, which was conducted in the mining SC in Zambia and extrapolate it to a different developing country same SC. Such future studies could contribute immensely to the knowledge by generating a more holistic understanding of sustainability conceptualization and overall impact on business, environment and society in a developing country context.

The final opportunity for future research lies in the findings. Expanding on the notion of dual personality to other sectors of SMEs could contribute greatly to the SMEs behaviour and its impact on sustainability agenda in a developing country context.

7.6 Conclusion

This chapter has presented the conclusions of the current study. The research aim, objective and questions have been revisited. Conclusions drawn from the main findings have been highlighted, and contributions to academia and practice have been discussed.

The results demonstrate the SMEs practice sustainability but in the mining areas only and are driven mainly by the need to meet customer requirements, the focal firms and regulatory requirements. They are influenced in their sustainability practices by the focal firms, suppliers and employees (primary stakeholders), the government, local authority, local community, financial institutions, NGOs, trade associations and the regulators (secondary stakeholders) through their roles and mandates of support and monitoring and control. Among the stakeholders, the government was identified as the key stakeholder. However, with regards to sustainability and its transfer up the SC, the focal firms were identified as the most important, using such mechanisms as product specification, certificates, checklist, policy guidelines and induction for extending sustainability practices to SME suppliers. The results also demonstrated the barriers to sustainability the SMEs face and the mechanisms to averting or reducing their impact if they cannot be averted.

The research concludes by presenting the key outputs, stakeholder framework and SMEs engagement profile. The outputs highlight the key stakeholders, their roles, the drivers and barriers to sustainability and their respective mechanisms for addressing the barriers. In other words, the research presents supporting tools for decision-makers to assist them better analyse and understand or control the SME environment with regard to sustainability practices in the Zambian contexts. See Figure 6.6, page 264; Figure 6.7, page 267; Figure 6.8, page 268 and Table 6.5, page 266.

The research, therefore, contends that the adoption of stakeholder theory is integral in sustainability debates when investigating this phenomenon in the SMEs sector of developing countries.

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APPENDICES

Appendix A: Interview Questions Guide

Introduction

This is a research on sustainability practices of Small and Medium Sized Enterprises (SME) suppliers in the Zambia mining industry. The study explores how SMEs conducts their business in relation to sustainable development. In prior research, there is much emphasis requiring Multinational Corporations (MNCs) to practice sustainable development, and less focus on SMEs; yet the latter represents the largest percentage of the firms operating in the copper mining supply chain (SC). Hence the need to study the current sustainability practices in SMEs and consider options for improving or developing their sustainable practices.

Objectives

To develop a detailed stakeholder framework that helps to analyse and better understand the SME environment in relation to sustainability practices in the copper mining industry in Zambia.

Primary research questions

- To what extent have the SMEs suppliers in the copper mining SC adopted sustainability practices?
- How are the SMEs influenced by the stakeholders when adopting sustainability practices in the copper mining SC?

Sub-research questions

RQ1) What are the current sustainability practices among the SMEs in Zambia?

RQ2) Who are the stakeholders and what do they expect from SMEs suppliers in the copper mining SC?

RQ3) How do the stakeholders transfer sustainability requirements imposed by their stakeholders down the SC?

QR4) How do the stakeholders engage SME suppliers in sustainability initiatives?

QR5) What are the barriers SME face when adopting sustainability practices?

QR6) What are the mechanisms for overcoming the barriers SMEs face in implementing sustainability practices

QR7) How could the SMEs be motivated to practice sustainable development?

Background questions

Position	
Gender	
Age group	
Years with the firms	
Years in the industry	
Level of education	

A. Questions for Focal Firms

1) What is your understanding of the term sustainability practices?

2) What is your selection criteria when choosing SME suppliers?

3) Do you consider any sustainability practices when selecting SME suppliers?

a. If NO, what are your reasons for not considering any?

b. If YES, which sustainability practices do you consider?

4) How do you monitor SME suppliers' sustainability practices?

a. What happens when one suppliers claim to be practicing sustainability, when not?

b. What actions do you take for SME suppliers that do not practice sustainability?

5) How do you transfer sustainability standards to SME suppliers?

6) How could the SMEs be supported to develop their capacity in implementing sustainability practices?

a. How do you assist them?

7) What other organizations support the development of sustainability in Zambia?

a. What is the nature of the relationship between focal firms, the supporting organizations and SMEs?

b. How do they influence SMEs adopt sustainable practices?

B. Questions for formal and informal SMEs

1) What is your understanding of the term sustainability practices?
2) Do you engage in sustainable development?
    a. If NO, what could be the reasons for not practicing sustainability?
    b. If YES, What sustainability practices are you engaged in?
    c. Who influences you in adopting sustainability?
3) What challenges do you face in adopting sustainability practices?
    a. How could you be supported in practicing sustainability?
    b. Which organizations support/could support you?
4) What penalties do face for not engaging in sustainability practices?
    a. If NO, what could be the reasons?
5) How do you monitor your suppliers' sustainability practices?
    a. What happens when you find that one supplier does not practice sustainability, when they should?
    b. What actions do you take for suppliers that do not practice sustainability?
6) How do you transfer sustainability standards to your SME supplier?

C. Questions for Stakeholders Classes

C1 Government Agencies and NGOs

1) What is your understanding of the term sustainability practices?
2) What is the nature of your relationship with the SMEs?
3) What are you doing to promote sustainability in Zambia?
4) How serious do you monitor the sustainability performance of SMEs?
5) What are the penalties for SMEs that do not engage in sustainability practices?
    a. What are their reasons for not adopting sustainability?
    b. How could the reasons be avoided/overcome?
6) What do you think could motivate SMEs engage in sustainability practices?

C2 Trade Associations

1) What is your understanding of the term sustainability practices?

2) What challenges do the SMEs face in adopting sustainability practices?
    a. What are the penalties for SMEs that do not engage in sustainability?
3) What do you think should be done to encourage SMEs practice sustainability?
    a. Offer training, how?
    b. Offer incentives, what type?
4) What organizations do you think support/can support SMEs develop their sustainability capacity?
    a. What is the nature of their relationship with SMEs
5) How would you influence the informal SMEs become formal?

C3 Individuals and Community Leaders

1) What is your understanding of the term sustainability practices?
2) What is your observation of the behaviour of SMEs in relation to sustainable development?
    a. Are you happy with their behaviour?
    b. Do you think something should be done to make them change?
    c. Do you think they understand the financial implication of their behaviour?
    d. In your opinion, what can the community do that might make them change?
3) How could the SMEs be supported develop their capacity to engage in sustainability practices?
    a. What organizations do you think can support them?
4) What do you think could motivate SMEs engage in sustainability practices?
5) What should be the consequences for SMEs that do not engage in sustainable practices?

D. Any additional comment

1) Is there anything else you might want to add?

Appendix B: Introduction Letter

THE COPPERBELT UNIVERSITY
OFFICE OF THE REGISTRAR
P O BOX 21692, Jambo Drive, Riverside
KITWE - ZAMBIA

Your Reference:
Our Reference:

Tel: 260-02-223012/227307/222932
Fax:260-2-222469/228319
E-mail: registrar@cbu.ac.zm

25th January 2017

TO WHOM IT MAY CONCERN

Dear Sir/Madam

INTRODUCTORY LETTER – MR. ROY MANCHISI

The above mentioned is a bona fide employee of the Copperbelt University who is serving as Lecturer in the School of Business engaged on Permanent and Pensionable Terms of employment.

Mr. Manchisi holder of National Registration Card Number 703789/11/1 is currently undertaking field work for his PhD at the University of Bradford. The Research Title is "**Sustainability Practices by SME Suppliers in Least Developed Countries", A Case Study of the Zambian Copper Mining Supply Chain.**

Kindly assist him in any way possible.

Yours faithfully

IREEN S. HIKAMATA (MRS.)
ASSISTANT REGISTRAR (ADMINISTRATION)

Copy to: Mr. Roy Manchisi

Appendix C: Consent Form

UNIVERSITY OF BRADFORD

CONSENT FORM	
PROJECT TITLE	Sustainability Practices by SME Suppliers in Least Developed Countries: A Case of the Zambian Mining Supply Chain

Name, position and contact address of researcher:
Roy Manchisi
PhD student
Faculty of Management and Law
School of Management
University of Bradford
Emm Lane Campus
Bradford
West Yorkshire
BD9 4JL
United Kingdom

Email: R.Manchisi@bradford.ac.uk
Mobile: +447474684651

	Please Initial Box
1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.	YES ☐ NO ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason	YES ☐ NO ☐
3. I agree to the interview being audio recorded	YES ☐ NO ☐
4. I agree to the use of anonymised quotes in publications	YES ☐ NO ☐
5. I agree to take part in the above study.	YES ☐ NO ☐

The ethics approval for this project has been granted by the Chair of the Humanities, Social and Health Sciences Research Ethics Panel at the University of Bradford on 15th December 2016

Name of Participant	Signature	Date
ROY MANCHISI		
Name of Researcher	Signature	Date

Appendix D: Participant Information Sheet

UNIVERSITY OF BRADFORD

PARTICIPANT INFORMATION SHEET

Project Title: Sustainability Practices by SME Suppliers in Least Developed Countries: A Case of the Zambian Copper Mining Supply Chain

You are invited to take part in this research study. This information sheet briefly outlines why the research is being done and what will be involved.

1. Purpose of the study

I am a PhD student at the University of Bradford, Bradford, United Kingdom, supervised by Professor Kevin D. Barber and Dr. Liz Breen. My research is on sustainability practices by SME suppliers in least developed countries: a case of Zambian copper mining supply chain. It will look at the current sustainability practices by the SME suppliers and how they are influenced by the stakeholder to engage in sustainability practices.

The main aim of the research is:
To provide the decision-makers (policymakers and senior managers of focal firms) with better decision-making support tools.

The research objective is:

To develop a detailed stakeholder framework that helps to analyse and better understand the SME environment with regard to sustainability practices in the copper mining industry in Zambia.

2. Selection of participants

You have been chosen to take part in the study because you constitute the member of copper mining supply chain and/or the stakeholders of the SME suppliers. For effective participatory dialogue, the stakeholder groups that include the mining multinational corporations (focal firms), state, trade associations, non-governmental organizations and the local communities have to be consulted.

3. Participant involvement

Your involvement in the study would be to take part in an interview where we discuss: the sustainability practices by SME suppliers in the Zambian copper mining supply chain and the influence of stakeholders on the SME suppliers to adopt sustainability practices.

The interview will probably last between 30 minutes to 1 hour depending on how much time you have available, and how much information you wish to share. I will record the interviews with your permission. The recordings will be written up and, everyone will be given a copy of the transcript, and sent via email to check for its accuracy. If, however, you do not wish to have the interview recorded, then it shall not be audio-recorded, and instead written notes will be taken and given back to check its accuracy.

If you do decide to take part, you will be asked to sign two consent form, one to be kept by you and the other to be kept by the researcher. A copy of information sheet will also be provided. You are still free to withdraw from the study at any time and without a given reason.

4. Confirmation of participation

If you decide to take part in this study, please reply affirmatively to the email sent to you requesting for your participation. Email address: R.Manchisi@bradford.ac.uk

Or a verbal confirmation to the telephone conversation made soliciting for your participation.

Alternatively, you can call the researcher on +447474684651

I will explain what the research is about and can also answer any questions you might have.

If you have decided to go ahead with the interview, we can arrange a suitable time and location.

5. Confidentiality and anonymity

All information that is collected during the course of the research will be kept strictly confidential.

Your name or any contact details will not be recorded on the interview transcripts. In addition, any details which potentially could identify you will also be removed or changed. My academic supervisors (listed in section 8) will have access to the anonymised transcripts of your interview, but I will be the only person to have access to the original recordings of the interview, your consent form and any of your contact details, except in circumstances when asked to provide them for audit purposes. Your participation in this study will not be discussed with others in the firms involved in the study. Also, your name will not be mentioned in the research as I will use anonymised quotes in all publications.

6. Usage of research results

The results of the study will be used in my PhD thesis that will be made publicly available. The material will be presented at academic and professional conferences and in academic journals.

Anonymity and confidentiality will be upheld in all cases. Findings from this study will contribute to the development of a detailed stakeholder framework that helps to analyse and better understand the SME environment with regard to sustainability practices in the copper mining industry in Zambia. The findings will also lead to the recognition and visibility of the role of the informal SMEs in developing economies, thus providing a voice for this less heard from body.

7. Funding of the project

The PhD programme, for which this project is undertaken, is fully funded by the Copperbelt University, Kitwe, Zambia.

8. Contact for further information

Roy Manchisi
Telephone: +44 7474684651
Email: R.Manchisi@bradford.ac.uk
roymanchisi@yahoo.co.uk

Academic Supervisors:

Professor Kevin D. Barber
Telephone:+44 1274 234387
Email: K.D.Barber@bradford.ac.uk

Dr. Liz Breen
Telephone: +44 1274 234308
Email: L.Breen@bradford.ac.uk

Appendix E: Content Analysis Process

Parent Nodes/Themes

Nodes

Name	Sources	References
Understanding of sustainable development	45	50
Challenges	44	387
Mechanism for overcoming SMEs barriers	35	131
Current sustainability practices	32	138
SMEs stakeholders	27	182
Penalties for Sustainability	20	41
Motivation	19	34
Supplier selection criterion	14	71
Sustainability practices transfer	11	21
SME bahaviour	9	17
Informal SMEs	8	12

Parent and Child Nodes

Nodes

Name	Sources	References
Understanding of sustainable development	45	50
Business sustainability	26	26
As defined by Brundtland Commission	21	21
No understanding	3	3
Challenges	44	387
Poor business environment	34	100
Lack of understanding	30	61
Attitude to sustainbility	20	44
Access to finance	18	26
Lack of implementation	16	28
Late payment	14	28
Lack of awareness	13	22
Cost	13	17
Lack of knowledge	10	11
Lack of support	10	17
Political interference	7	12
capacity	6	6
Lack of pro-SMEs policies	6	7
Lack of infrastructure	4	4
Duplication of provision in law	3	4
Mechanism for overcoming SMEs barriers	35	131
Awareness raising	12	19
Training	10	15
policy guidelines	9	12
Education	8	12
Financial support	8	13
Engaging stakeholders	8	13
Proactive Government	7	9
Implementing policies and laws	6	7
Building capacity of regulatory bodies & trade association	6	10
Providing incentives	5	7
Communication and reporting mechanism	5	6

Nodes

Name	Sources	References
Communication and reporting mechanism	5	6
Infrastructure	2	3
Coordination among regulatory institutions and laws	2	5
Current sustainability practices	32	138
Environmental Sustainability	25	43
Environmental management	15	23
Solid waste management	6	7
Environmental policy	3	3
Health, Safety and Environmental policy	3	4
Refill drums	1	1
installing pumps	1	1
Minimise on printing	1	1
Recycling	1	1
Investing in product knowledge	1	1
Tree planting	1	1
Social Sustainability	25	76
Community support	11	18
Donate to charity and orphanages	9	12
Health scheme	7	13
Employee incentives	6	10
Reasonable Remuneration	4	4
Training and Development	3	4
Provide protective clothing to employees	3	3
Local recruitment	2	3
Sponsor sports activities	2	3
Local purchases	1	1
Sponsor students	1	2
Career development	1	1
Shorter working week	1	1
Industrial attachment to students	1	1

Nodes

Name	Sources	References
Economic sustainability	10	15
Recycling	3	3
Buy from accredited companies	2	3
Use of refill than continers	1	3
Installing pumps	1	1
long term contract	1	1
minimize on printing	1	1
Hiring or sub-contracting equipment	1	1
Resale scrap	1	1
Using a min-bus vehicle	1	1
SMEs stakeholders	27	182
List of stakeholders	20	63
Regulators	7	14
Local authority	6	8
Financial institutions	6	9
Government	6	6
Local community	4	4
NGOs	4	4
Focal firms	4	8
Trade association	3	6
Employees	2	2
Suppliers	1	1
ZDA	1	1
Monitoring stakeholders	16	32
Regulators	8	13
Focal firms	6	9
Local community	5	5
Local Authority	4	5

Nodes

Name	Sources	References
Local Authority	4	5
Roles of stakeholders	14	60
Support	13	40
Information	6	9
Training	6	9
Loan schemes	5	8
Technical support	4	4
Advocacy	3	3
Business linkages	2	2
Monitoring	8	20
Onsite inspection	4	4
Certification	3	5
Review meetings	3	5
Sites Visitation	2	5
Supporting stakeholders	12	26
Government	6	6
NGOs	4	6
Trade association	4	4
Financial institutions	3	5
Employees	2	2
Suppliers	1	2
ZDA	1	1
Penalties for Sustainability	20	41
Termination of contract	7	9
Fines	7	8
Black list	5	5
Suspension	3	3
Denied access to work place	2	2
warning letter	2	3
Given time to recify the problem	1	1
Motivation	19	34

Nodes

Name	Sources	References
Motivation	19	34
Company policy	8	8
Training	6	6
End user requirement	5	7
Recognistion	3	5
Provide incentive	2	3
Competition	1	1
Supplier selection criterion	14	71
Job	14	51
Cost	10	14
Quality	6	7
Lead time	4	5
International standards	4	6
Experience	4	4
Technical capability	2	3
Local permit or license	2	2
safety aspects	2	2
Brand	1	3
Qualification	1	1
Environment aspects	1	1
Storage capacity	1	2
Registration	5	19
Background checks	4	7
Workman's compensation	3	3
Pacra	2	3
ZRA	2	2
Napsa	2	2

Nodes

Name	Sources	References
Sustainability practices transfer	11	21
Induction	4	4
certificates	4	6
policy guideline or written down instructions	4	4
verbal instructions	1	1
Product information and quality of items	1	1
checklist	1	1
SME bahaviour	9	17
Profit oriented	6	7
Financial indiscipline	3	3
Employee exploitation	2	4
Mistreat employees	1	1
Focus on current needs	1	1
Informal SMEs	8	12
Reasons for remaining informal	6	10
Business cost	3	3
Capital	2	2
Capacity	2	2
Lack of information	2	2
Sensitization	1	1